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Washington Highlights

Coal has been losing ground to petroleum and other fuels in industry as well as in home heating, the Commerce Department reported. The department revealed that on a per capita basis, use of natural gas has increased approximately 80 per cent since 1939, oil about 60 per cent. Soft coal has increased 28 per cent. Hard coal consumption, however, has declined 10 per cent.

Approved by the Interior Department is a third regional advisory committee for the petroleum industry's voluntary allocation program. The committee is designed to direct oil allocation activities in Arkansas, Alabama, Mississippi, Louisiana, Texas and New Mexico. The department explained that no one of these states are faced with oil shortages. Voluntary action, however, was foreseen by Federal Officials as necessary to assure that supplies in these states are so directed to prevent fuel scarcities in other areas during the coming winter.

A proposal that 40,000 tons of steel a month be ear-marked for construction of 81 oil tankers is supported by the Navy. The Navy's backing of the move was given at a hearing held by the Commerce Department Office of Industry Cooperation. This branch of Government has developed a steel channeling program for tankers which already has won the approval of leading representatives of the steel industry.

American Bureau of Shipping has reported that 54 ocean-going oil tankers are under construction in shipyards in the United States. Included are 45 in the class of 26,000 deadweight tons or more, the bureau stated.

Appointment of Gordon C. Locke, attorney for the Interstate Compact Commission, as executive secretary and counsel for the Committee for Pipeline Companies, has been announced here. The committee represents pipelines subject to regulations of the Interstate Commerce Commission and headquarters in the Washington Munsey Building. Locke has been with the commission since 1938. During World War II, he served as major in the Army Air Forces. He saw service in campaigns at Africa, Sicily and Italy.

Contract for drilling on United States Navy oil shale reserves in Western Colorado has been awarded by the Interior Department to Boyles Bros. Drilling Co., Salt Lake City. Funds for the seven diamond core holes are being supplied by the Navy. These holes will go to depths ranging from 570 to 1200 feet, with work a completion "must" within 15 months. Work is a phase of a coordinated Government-oil industry program to ferret out the character and a real extent of oil shale resources on Western Colorado lands. Cooperating organizations include Union Oil of California and the Pacific Co., a Standard of California subsidiary.

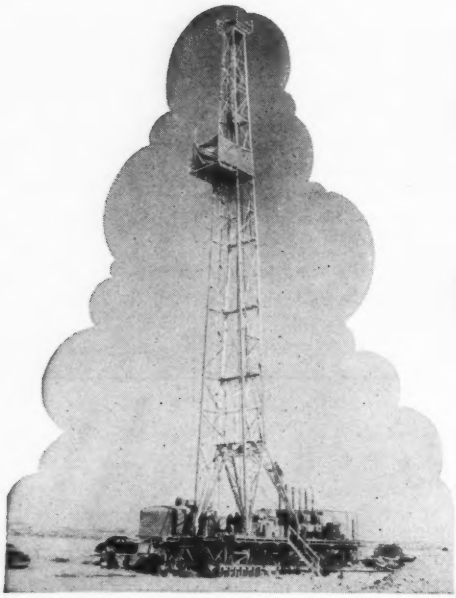
Of particular interest to Washington oil observers was the comment on current oil profits ascribed to Robert C. Dunlop, president of Sun Oil Co. in the current issue of his company's publication.

The oil executive declared that the current level of oil profits is "vitally necessary to enable the oil industry to meet the demands being made upon it." He added that present profits level also is necessary "to assure the consuming public and the Armed Services adequate supplies of petroleum products at reasonable prices in the years ahead."

Dunlop stated this country's record consumptive demand for oil products are being satisfied because the industry's profits are sufficient to bear and support the needed $4,000,000,000 expansion program. Increased taxation of cooperative profits, the company head said, would "hobble the industry's efforts to meet demands and in turn would result in a "continuing tight supply-demand situation."

"In the end," he pointed out, "the Government would be forced to ration oil products which in volume would grow less and less. The result would be that everyone concerned would be hurt, particularly the consumer."

New regulations to be shortly issued by the Bureau of Internal Revenue are expected to clarify the tax position of unitization agreements by continuing exemptions allowed during wartime.



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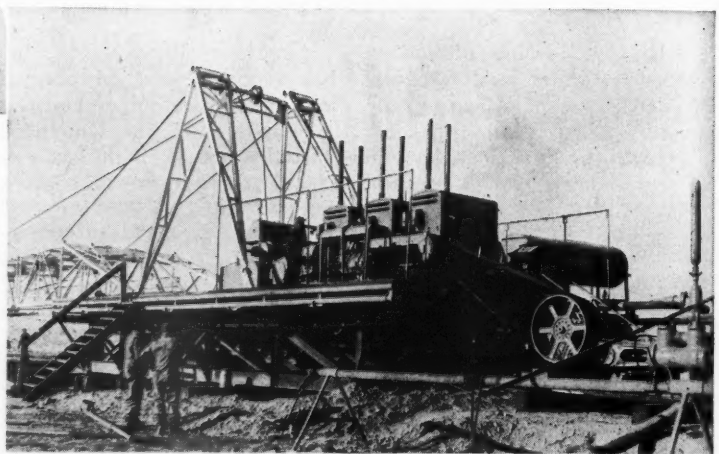
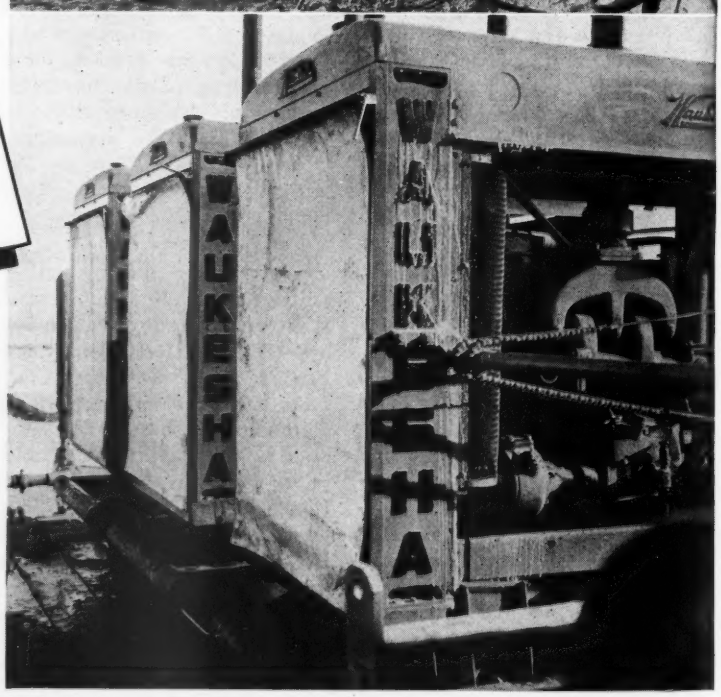


● LOWELL & VOLTZ, Vernal, Utah, are getting super-duty drilling—using this *Unitrig* powered with three Waukesha Super-Duty Diesel Oil Field Units (Model 6-WAKDU) 6 cylinder, 6¼ in. bore x 6½ in. stroke, 1197 cu. in. displacement, governed speed 1300 rpm. It's a potent power producer, this heavy-duty four-stroke cycle, overhead valve Diesel Engine!

Super-Duty Diesel Six Oil Field Units



Rugged but not rough . . . you get the same snappy acceleration with the Waukesha Super-Duty Diesel that you're used to with a gas engine. If you've been using Diesels, you'll appreciate that. Starts promptly, even in cold weather (look at those icicles on the radiator in the picture) with either the Waukesha gasoline starting engine or electric system.

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The Oil Industry's Oldest Problem

Nothing has so fully or so long contributed to the complexities of petroleum operation as that ubiquitous liquid—water. In a thousand ways it has intruded itself into the production processes, and its effects are so manifold that a book might easily be written about them. It could be said in truth if water in oil wells has any virtue at all, it is simply that it has been responsible for exercising the genius of generations of engineers and technicians who have sought to combat its pernicious influences. It has thus inspired some most interesting development; the systems and contrivances that have been advised to combat the water nuisance in all its variations are legion. They range from the most primitive methods of separating water and oil by gravity, to modern highly scientific apparatuses for dehydration electrically; and in addition, there are countless incidental instruments and specialized procedures that shed their benefits promiscuously in other phases of the industry—all attributable to the fight against water.

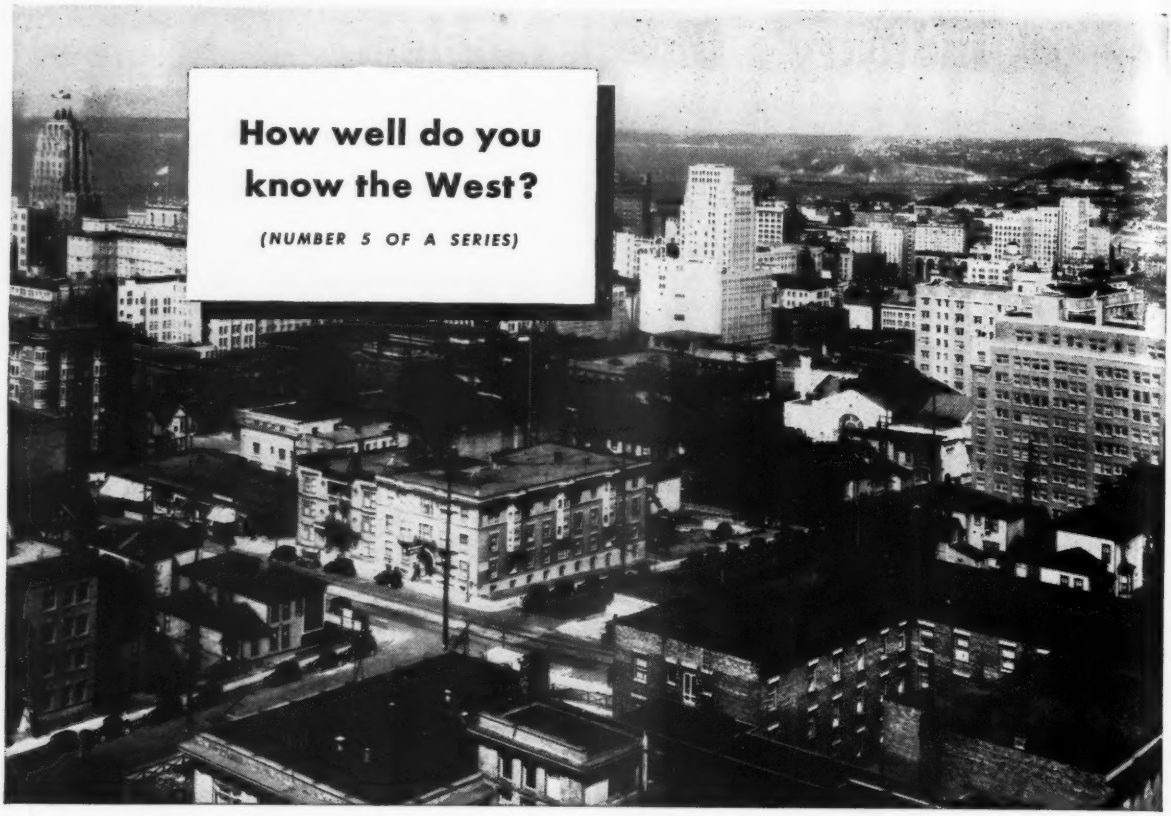
It seems rather incongruous but is a fact nevertheless that there have been occasions when men drilled for water and were greatly disturbed if the water happened to be contaminated with oil. We find it difficult to believe that anyone could be distressed by the discovery of oil, but it has often occurred. Several petroleum historians have stated that the Santa Fe Railroad was once "bothered" by oil along its right-of-ways, and eventually the C.C.M.O. Company was organized to cope with this bothersome situation. However, all that is beside the question . . . at the moment we are concerned with water, its effects in the petroleum production picture, and some of the methods that are now utilized to get rid of it entirely or to nullify its corrosive influence.

Fundamentally water is at once objectionable in an oil well because it has no value to the producer and the cost of lifting it to the surface and disposing of it adds to the cost of producing oil. When to such expense is added the repairs and replacements necessitated by the corrosive action of salt water, and the loss of machine power and general efficiency resulting from its presence, it is easy to understand why well waters have been a headache to the producers ever since the industry began. It is easy to understand, too, why brigades of chemists and engineers have arrayed their talents against the encroaching waters. They haven't stopped the tide, but they have certainly learned a great deal about how to handle it. We know that water permeates through the producing formation as oil is taken out of the subterranean reservoir, finally reaching the well bore and being produced with the oil in greater and greater quantity as more and more oil is withdrawn.

At one time this encroachment was just accepted as an inescapable fact about which little could be done. The water and oil were produced together into crude sumps and separated by gravity . . . the oil then being pumped from the surface into so-called shipping tanks. It was more or less of a continuous action. Water was drawn off at the bottom and run down the nearest gully, sometimes to the keen distress of neighboring land owners whose fresh water wells or growing crops might suffer severely in the process. In due course sufficient hooraw was aroused by these offended individuals and concerns that the industry itself recognized the need for some methodical program of water disposal; protective laws were passed, and cooperative water disposal systems were inaugurated. Another circumstance by which the early operators were excited was the realization that a considerable part of the oil was being lost by evaporation in these open sumps. The competitive nature of the industry had a salutary effect on that bad habit. It is still practiced in a minor degree, mostly by small producers of very heavy oil . . . in remote inland areas.

The whole question of water disposal is one that must be determined on the basis of local conditions. Many factors have a bearing on the final decision, for example, the type of water involved, the quantity of water, and the nature of the surrounding terrain. Ordinarily, the water drainage from the lease tanks,

An interesting layout showing the dehydraters and all the appurtenances, including the wet oil tanks, skimming tanks, rundown or shipping tanks, gas separators, and general storage all in a compact area.



What city is this?

Whether you recognize the picture or not, consider these clues:

Clue No. 1 The Government Locks located here are second only in size to those of the Panama Canal.

Clue No. 2 With the beginning of the "Air Age", an airplane manufacturer that has since become one of the country's largest producers of planes, located here.

Clue No. 3 This city has always been one of the nation's largest shipbuilding and ship repair centers.

Clue No. 4 Many progressive industries of this area depend upon the Great Western Division of The Dow Chemical Company for essential chemicals of unvarying uniformity and quality—manufactured in the West to serve the West.

Answer: Seattle. Clues supplied by that city's Chamber of Commerce.

DEPENDABLE
CHEMICALS FOR THE WEST COAST

GREAT WESTERN DIVISION
THE DOW CHEMICAL COMPANY
SAN FRANCISCO, CALIFORNIA
Seattle Los Angeles

GREAT WESTERN DIVISION • THE DOW CHEMICAL COMPANY • BEAR BRAND PRODUCTS
DOW
CHEMICALS INDISPENSABLE TO INDUSTRY AND AGRICULTURE

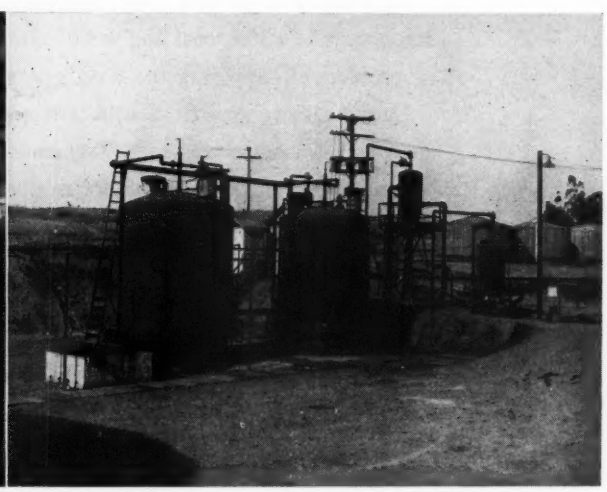
which contain some oil and emulsion, are collected at some central skimming pond, where as in the old sump method the components are separated by gravity. Nowadays, however, the skimming ponds are much more effective. The oil is removed completely from the fluid, and the water is disposed of with the utmost care. In some areas the water now even has a value, since it yields a commercially recoverable quantity of iodine. That situation is not yet being as fully exploited as it might some day be, but at least for the moment it has solved the disposal problem very adequately for a few fortunate operators by passing the onus to the iodine manufacturers.

It is perhaps putting the cart before the horse to discuss the disposal problem before dealing with such matters as production and separation, so let us back track for a minute to the source of all the trouble . . . the well: Technologically, there have been tremendous advances in all phases of petroleum engineering in the last two decades, and some highly interesting experimentation has taken place. Studies of the mechanics of flow in the oil reservoirs have been extensive and ingenious. Bottom hole pressures, core tests for permeability, porosity, and other pertinent factors, have all added much to our knowledge of reservoir phenomena . . . and, of course, migration of water is an important feature of reservoir behavior on which these studies have also shed much new light. With the use of tracers the rate of movement can now be calculated from time-volume relationships, so long as the subsurface conditions are right. And, thus, we are daily becoming better informed on the entire process of production as it relates both to oil and water.

There has been a concerted investigation by organized groups of the possibility of entirely excluding water from oil wells. They don't say it can be done or that it is in all instances desirable, but they argue that the expense involved in lifting water, separating it from the oil and disposing of it, along with replacement and repair costs occasioned by the corrosion of equipment, certainly justify some thinking along the line of exclusion. Already some very effectual measures have been devised for the temporary reduction of water yield. The injection of mud laden fluid and cement slurry into wells producing under pressure, and allowing them to gel or set has been used to good effect. Water producing horizons have been shut off by cementing through perforations. Bottom water has been largely excluded by the use of an infinite variety of implements and materials, including packers, chemicals that form impervious compounds when allowed to react with water, and more recently the so-called thermo setting plastics. All of these have done and are doing their bit to keep water production to a minimum, but it is still raised in sizable quantity from the oil wells of California as well as the other producing states of the nation. It is interesting in this connection to note that one operator at least has dropped the water level in a flooded field substantially and brought many depleted wells back into production by the simple expedient of pumping water from the reservoir faster than it accumulates.

It is an unfortunate fact that oil and water have a tendency to emulsify more or less tightly when agitated in the presence of certain agents, the true natures of which are not clearly known. They may be gummy or resinous suspensions inherent in the oil, or extraneous substances such as fine silts, colloidal clays, etc., but in any case they seem to have the effect of enveloping small water globules and keeping them apart in the oil media for greater or lesser periods of time, depending on the surface tension at the interface of the respective phases, and the relative gravities of the components. Under the proper circumstances this arrangement may be completely reversed, and enveloped oil globules may be founded dispersed through a water medium.

One of the oldest systems of water removal is that of the skimming pond, a rather modern example of which is shown here. In many instances, the skimming is done in a sump hole, with nothing more in evidence than the crude container and a skimmer or paddle to take off the oil that floats to the top. It is obvious that this system is only applicable to heavy gravity oil.



These are typical electric dehydrating units. They function by exposing the crude to a high voltage electric field which breaks the emulsion. Meantime the water migrates to a common area, coalesces and settles by gravity. This system is also all enclosed.

The West Would Break Down Without Oil

Imagine, if you can, the West with less than ten per cent of its present energy supply. That's the West without petroleum. In spite of the great hydroelectric developments and other sources of power, less than ten per cent of the West's mechanical work could be done without oil and gas – they are nine times as important as water, coal and wood combined.

The problem of supplying the West's petroleum needs is constantly increased by the steady growth of this territory. Four million people have moved out here in the last seven years. Tremendous industries have been added to our western economy. The demand for mechanical energy has grown even faster than the population.

The job of supplying essential power to the West, and the entire country, can only be possible so long as the petroleum industry is given the opportunity, as well as the responsibility. Every one of us in the oil business has an increasingly important part in the economical production and distribution of petroleum products – a tremendous job of which we can all be proud.

General Petroleum Corporation

(A Socony-Vacuum Company)

Mobilgas
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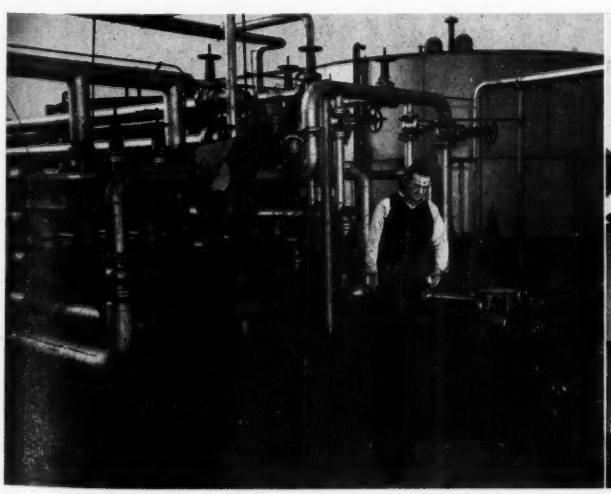
The agitation that causes these emulsions has many sources. In flowing wells they may be formed in the casing as oil, water, and gas rush to the surface, and may be further exaggerated as the production goes through flow beans and other restricted openings to the lease run down tanks. Sometimes the injection of gas may provide the degree of agitation that is necessary. Some types of oil emulsify readily with water in the process of pumping, so that the production department can often save itself time and trouble by making the right choice of pumping equipment. Not infrequently emulsions are the result of equipment defects such as worn cups, leaky valves, or leaky tubing. They may be due on the other hand to the pumping rate (too fast or too slow), and they may in their perverse way show up when there just doesn't seem to be any explanation.

When free water is produced with oil, the separation of the two is comparatively simple. It is ostensibly a matter of allowing the run-down tanks sufficient time to settle, then drawing off the water through a bleed pipe in the bottom of the tank. The water so drawn off goes to a skimming pond where the last vestige of oil is removed before the water undergoes final disposal. This, if a coastal field, may be into the ocean. In inland fields the water may be discharged into natural drainage, to a porous surface bed into which it is readily absorbed, or be discharged into convenient sewers by agreement with the proper authorities. The foregoing is the simplest situation with which the production man may be faced, but it is no longer the commonest one. There are few wells today that don't produce some emulsion and there are many, still commercially producible that contain as high as 90% emulsion. And, there is such a tremendous variation in the character of emulsions that each manifestation is virtually a separate problem in itself.

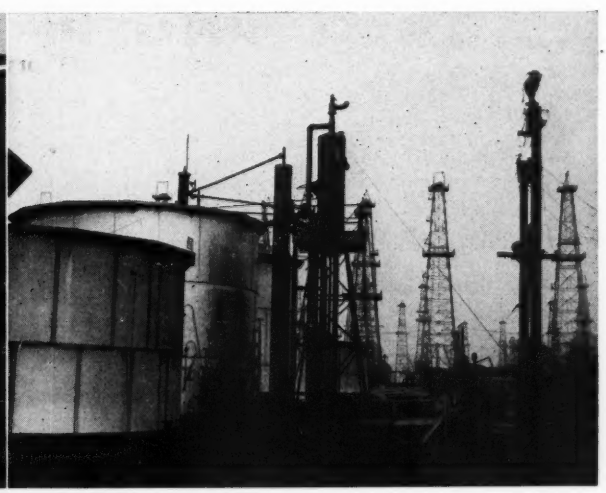
Preliminary efforts at demulsifying oil well production consisted of applying heat through the installation of steam coils inside the tanks. This was effective in some cases but overall it was a mighty expensive process, since in the main it was carried on in open tanks, and it now makes the conservation engineers cringe when they think how much of the valuable light fractions of petroleum must thus have been lost to the generation of the day and all succeeding generations. The writer remembers one instance of this type of dehydration that had an entirely unexpected effect. At a critical moment in the process the steam cooled off and the heavy wet oil was swollen into a spongy mass by the presence of entrapped vapors, until its apparent volume was far above the true volume of the liquid. It had to be shipped as was, and the relation between the bloated volume and the true was determined in the laboratory, a correction factor was established and applied to the entire tank.

The function of the heating method as described, of course, was merely to reduce the viscosity of the heavy oil, break the enveloping film in the emulsion, and permit the water to settle more easily by gravity, but the method was distinctly uneconomical and soon had to give way to more rational procedures. Another method that was used in the early days was to add more salt to the water and stir until it was pretty well saturated. This, of course, was designed to accomplish the same thing as the heating method by a different approach, that is to increase the gravity differential between the oil and the water so that the latter would settle easier and more quickly. From the conservation viewpoint it was something of an improvement over the heating method, but since it was also carried on in open tanks, the stirring helped to dissipate a goodly proportion of what light material may have been in the oil. In fairness, it should be said that both of these methods were mostly used for very heavy oil.

The first real scientific advance in dehydration was the result of the Barnickel experiments. This observant gentleman had exhibited an early interest in emulsions and he found that some of them broke down when shaken with iron sulphate—



Even so-called automatic dehydraters require pumps which are not always automatic, to circulate the oil, and for other purposes. The dehydrater operator is here seen oiling a steam pump at his plant.



This is a more modern species of wash tank used for dehydration at the well head or in the flow line by the use of the proper demulsifying agent and the requisite facilities for taking care of the separated water and oil.

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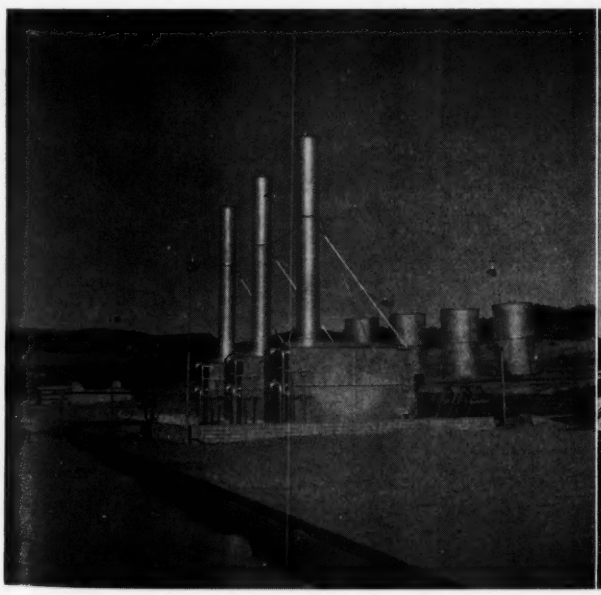
and not only that, but in most cases a considerable quantity of oil could be recovered in the process. Further tests indicated that certain sulphonated fatty acids were even more effective and Mr. Barnickel patented the Tret-O-Lite compound. That was in 1919, and has since led to all sorts of amazing discoveries with respect to emulsions, their character and behavior. This system of chemically resolving emulsions was not introduced into California until 1930 but now has wide application and can be adapted to almost every conceivable type of emulsion encountered. In some cases very little accessory equipment is required and in practically all cases it is successful when used in conjunction with normal aids.

Chief of these normal aids is the electric dehydrating system, which was exciting Dr. F. G. Cottrell at the University of California, about the same time as William S. Barnickel was experimenting with his chemical resolvers. Dr. Cottrell was interested in the precipitation of acid mists as an advance in sulphuric acid manufacture. One of his coworkers recognized the similarity of this problem and that of settling the water in a water in oil emulsion, and experiments with the electric treatment of emulsified oil were begun. There were one or two setbacks before it was recognized that not all emulsions were amenable to the same type of treatment, but in general the groundwork was laid for a species of equipment that is now almost as indispensable to the oil industry as oil itself.

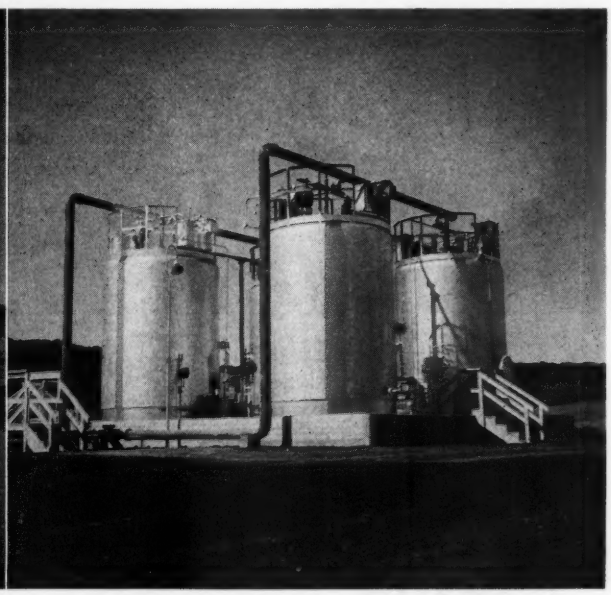
Before discussing electric dehydration, some attention might first profitably be devoted to a chemical process that is now in wide use. It requires the minimum of equipment and yet for light oils containing emulsion that is not too finely dispersed it has in many instances proved completely adequate. This method normally involves the injection of a carefully chosen chemical demulsifier in liquid form into the flow line at the well head, or at the point of entry into the wash tank. Introduction of the chemical at the well head usually results in sufficient agitation to thoroughly disperse it, and thus accomplish the maximum effect, but when it is introduced just at the wash tank, an air jet, paddles, or some other system of mechanical mixing is necessary to bring the chemical and the emulsion into intimate and overall contact. After agitation or thorough admixture, the contents of the tank are given time to settle, the water is drained off and the dry oil is conducted to the shipping tanks. In some cases it is necessary to heat the oil to get proper action, and, of course, the choice of chemical is carefully worked out after an analyses of the conditions in conjunction with demulsification experts.

In the meantime great improvements have been made in the electrical method of dehydration since Dr. Cottrell's first unit was installed on the Lucile Oil Company's lease in Coalinga. That was in 1909, and although it proved successful for the conditions immediately encountered, it had certain deficiencies that would definitely ban it from present day use. For one thing, it was an open top device, hence subject to unnecessary evaporation losses. Essentially, it consisted of a vertical shaft equipped with a series of disks all of which rotated inside a galvanized steel tank. The shaft and disks carried a charge of high voltage current, and through the field thus created the emulsified oil passed and was eventually carried into an adjacent settling tank. It was so constructed that the fire hazard was quite pronounced—another reason why it would not have received the approval of modern oil operators.

The electrical dehydraters of today are highly satisfactory from all considerations. They are completely enclosed, are equipped with safety



When the oil is heavy it is frequently necessary to heat it in advance of treatment by the electric dehydraters. This is to reduce the viscosity and at the same time to increase the gravity differential between the oil and the water.



This is a very recent installation of electric dehydraters. These are all enclosed units and do an excellent job of separating oil and water and at the same time conserving volatile components.

The New *GEOPHYSICAL* Sensation!

The Globe 2-Cutter Rock Bit has revolutionized geophysical work... it out digs, out lasts, and out performs any other bit *or your money back.*

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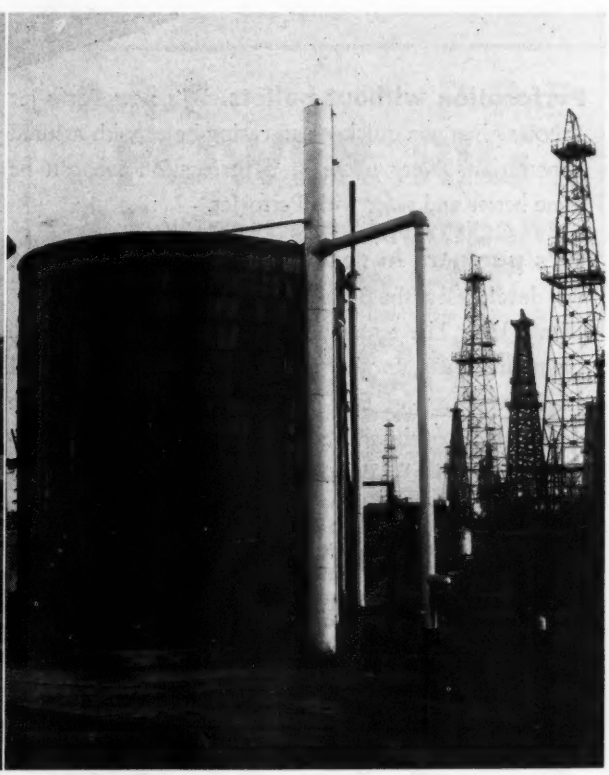
devices to prevent fire, and whereas the earlier units were of the batch type—the present ones are mostly continuous and virtually automatic. In the up-to-date electric system, oil flows from the wells to a primary gas trap, thence through thermostatically controlled heaters to the secondary gas trap, and finally to the dehydrating unit. The freed water is measured in automatic meters and the dry oil is conducted to shipping or storage tanks. However, it should be remarked that some oils are so viscous and resistant to ordinary methods of dehydration that they still are best treated by the batch system—a batch system, of course, that is also decidedly improved over former methods. In actuality, it is found that to meet the diversity of conditions that develop in the various fields, and sometimes even in one field because of the different methods of raising the oil, it is necessary to use several types of approved dehydration methods. They may be used separately or in combination, and some rather interesting results have been secured by partial application of some of the methods. For example, heavy wet oil which builds up excessive line pressures when being pumped has been sufficiently reduced in water content, by partial treatment with chemicals at the well, to lower its viscosity and hence make its transport through the line much easier.

It would appear that each type of oil presents a distinct problem, and finding the most effective and at the same time the most economical system to apply to any particular well or area is a task fully worthy of the chemical engineer's attention. Incidentally the manufacturers of the demulsifying chemicals and the electric dehydraters both are wide open for consultation on any problem that may develop. They have subjected the entire theory of emulsions and demulsification to intense and continuous investigations over the past 30 years more or less, and do not hesitate to make the wealth of information so acquired available to anyone with a dehydration problem.

In comparatively recent years a great deal of attention has been focused on oil well corrosion resulting from the presence of salt water. It has been pretty well established that the corrosion of oil field equipment in wells is the result of electro-chemical action induced by the various chemicals dissolved in the water. This species of corrosion is responsible for the expenditure of tremendous sums annually to replace pipe, tubing, casing, pump valves, sucker rods, and an infinite variety of instruments and implements. It can be seen thus why petroleum engineers are so earnestly exerting themselves to determine if possible a means of excluding water entirely from the wells. One organization has developed an apparatus for emulsifying oil and water in the well, because of its discovery that the metals used in most equipment, when contacted with a water in oil emulsion, are preferentially wet by the oil phase. If this is an effective measure, and it does sound rational, then it becomes a matter of trying to balance the cost of

This is a primary and secondary gas trap installation which is used to separate gas from the oil both before and after heating. The presence of dissolved or occluded gas can tremendously complicate the dehydration process.



Sometimes the water can be removed very completely and very economically by treating the wet oil with chemical in the well or in the flow line from the well. Heat may be necessary in the case of heavy oil or an exceedingly tight emulsion.

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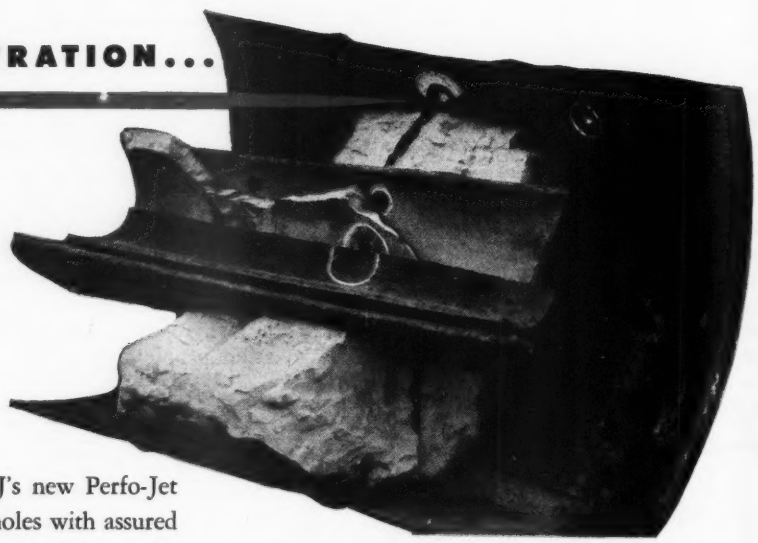
DEEPER...

FASTER

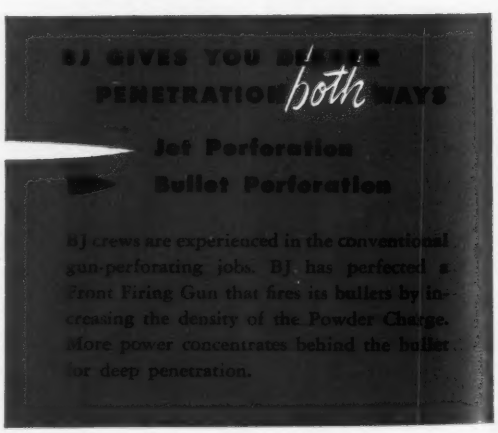


Perforation without bullets. BJ's new Perfo-Jet Process gives you quick, clean casing-holes with assured penetration. Every phase of a perforation job can be done better and safer with Perfo-Jet.

BJ's partners in research. The Perfo-Jet Process was developed at the Byron Jackson experimental station, Signal Hill. The research staff of the E. I. DuPont de Nemours & Co., Inc., as well as the engineers of Well Explosives, Inc., of Fort Worth, Texas, assisted in the development of the shaped charge for perforation of oil-field casing. The BJ Perfo-Jet Perforating Process is now available to you.

HERE'S PROOF OF PERFO-JET PENETRATION. Photo of 7" 26 lb. N-80 casing cemented in a 10¾" 51 lb. casing cemented in a 55 gallon drum, subjected to a penetration test with Perfo-Jet. There's a clean ½" hole through casing, cement, and out through the drum!

OPERATORS, BJ experience and BJ Engineered Equipment add up to less rig time. Write us or call today for complete information.



BJ crews are experienced in the conventional gun-perforating jobs. BJ has perfected a Front Firing Gun that fires its bullets by increasing the density of the Powder Charge. More power concentrates behind the bullet for deep penetration.

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LOS ANGELES 54, CALIFORNIA
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emulsification against the subsequent cost of dehydration and perhaps later corrosion losses.

With the development of various sub-surface testing devices, the sources of well water can now be determined much more accurately than formerly, so that top or middle water can be controlled very well. The temporary control of bottom water is also much more certain because of improved techniques, and it may be safely said that eminently satisfactory progress has been made in combatting water encroachment. Experience has led to a much more satisfactory correlation of the analyses of well waters with their sources of origin and their prospective actions both in the well and upon arrival at the surface. Indeed, in every phase of the water problem the engineer is slowly asserting the upper hand. In his fight he is being aided greatly by the equipment manufacturers who are striving to develop alloys that are resistant to the corrosive effects of well brines. Pipes and tubing are being preserved by coating with plastics. Every effort is being made on the one hand to keep the water from encroaching, and on the other hand to minimize its corrosive effect when and if it does get into the well.

Certainly, important strides have been made in handling water in all its forms after it has been brought to the surface. From the first crude efforts to skim off the oil in earthen sumps to the effective combination of chemical and electrical systems employed today is a far cry, and there is good reason to hope that further progress may be made in the years to come. It can never be too often reiterated that by and large the production end of the petroleum business as it stands now is the result of continuous cooperation between oil operators and equipment manufacturers. In the particular department here being discussed, we may also bring into the picture the chemists, commercial and industrial, for they too have played an indispensable role in the research that has so greatly increased our knowledge of well waters and their behavior. Where we go from here is rather difficult to determine, but it may well be that we shall also find bacteriological effects which we have failed to weigh up to the present, but yet may greatly influence the water problems of the future. This last thought is suggested by the work of Dr. Claude Zobell and his associates, and is supported by the findings of some local experimenters in secondary recovery, who have found that permeability of water in the oil sand is markedly affected by the presence of certain organisms.

Orange County Project Reams

North Star Mining & Dev. Co. has reached 205 feet with its North Star Johnson No. 1 wildcat on Sec. 8-5s-7w at Silverado Canyon in Orange County and is reaming. Drill site is not far from the old Santa Clara coal mine.

Beach Brace Begin Working

R. F. Oakes and E. E. Combs are starting two wells in the Long Beach Harbor area. They are Hart No. 1 and Hart No. 2 in the vicinity of the corner of Pico and Seaside Streets.

You can do *yourself* a world of good on October 14th*

*Oil Progress Day

NOW IS THE TIME TO PREPARE!

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A NEW HIGH ... IN BRONZE GATE VALVE DESIGN

LUNKENHEIMER

200 LB. BRONZE *UNION BONNET*

GATE VALVE

The new Lunkenheimer 200 Lb. Bronze Union Bonnet Gate Valve incorporates the first application of full cylindrical body sections in bronze gate valves. This construction, previously used only in higher pressure steel valves, provides great strength and maximum resistance against distortion of the valve body and seats due to internal pressure strains and other stresses. Tests made under the most severe conditions prove that this design will not distort and will maintain initial proportions and seat tightness.

In addition to the cylindrical body construction and other service-giving features, these valves employ Lunkenheimer's patented Alloy Stems which eliminate stem thread failure due to wear.

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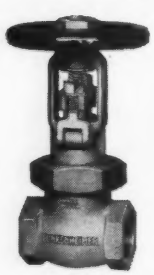
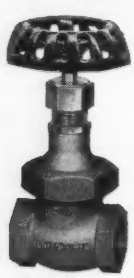


O. S. & Y.
Union Bonnet
¾ to 2 inches
Fig. 2232—Screw Ends
Fig. 2233—Flange Ends
Wedge Disc,
Rising Stem



Union Bonnet
¼ to 2 inches
Fig. 2230—Screw Ends
Fig. 2231—Flange Ends
Wedge Disc,
Non-rising Stem

Complete information is given in Circular No. 534. Ask your Lunkenheimer Distributor for a copy or write us direct.

Fig. 2228—Screw Ends

Fig. 2229—Flange Ends
Double Disc, Rising Stem

Balanced Economies in Gas Plant Design

By

Murray E. Garrison,

Project Engineer, General Petroleum Corp.

After the oil field has been stabilized so that an approximate average analysis of the gas can be obtained and the amount of gas available can be estimated, at all of the various pressures at which the oil and gas is to be produced, the management will then ask for an approximate estimate of cost of a gas plant and an estimate of the available products to be obtained for sale. Let us assume that we have a dry gas sales available at 450 pounds pressure and desire to produce 18-21 pound vapor pressure stabilized gasoline, propane and L.P.G. We now have sufficient information upon which to start design calculations for the gas plant.

Preliminary calculations at 450 pounds absorption has indicated from the above data approximately the amount of raw natural gasoline to be processed. The first consideration for minimum fuel consumption is to start at the end of the plant and work backwards, in other words settle upon fractionating plant design first. In order to eliminate a de-ethanizing column from the fractionating plant design it becomes necessary to remove the propane product as a side draw from the de-propanizing column, and to control the ethane and methane content of the raw gasoline through selective absorption. First, choose the working pressure of the de-propanizer column high enough sav 350 pounds, and include enough additional fractionating plates so that propane can be drawn from a side cut 98% pure if desired without losing reflux due to poor overhead condensing temperatures. Second, choose an economical exhaust steam pressure so that a maximum amount of exhaust steam can be utilized, sav in this case roughly around 50-60 pounds pressure. Next size the fractionating plant reboilers large enough to properly utilize 50-60 pounds exhaust steam and to process the desired reflux ratios and temperatures required to properly fractionate the raw gasoline into the desired products. Let us look at the Fractionating Plant Flow Sheet of the Burrel Gas Plant (Fig. No. 1).

Start a table for exhaust steam utilization namely for, reboiler heat, for agitation steam for the absorption plant still and for boiler feed water heat. Also start a table showing all of the hydraulic horsepower required for the various pumping operations. After the fractionating plant flow and the absorption plant flow have been processed then choose as many horizontal duplex steam pumps, or turbine driven pumps as possible for operation without stacking any exhaust steam line with a small amount of live steam. In this way no steam is wasted to the air from the plant except that required to drive carbon dioxide from the boiler feedwater. For the balance of the pumping operations gas engine driven pumping units will be required.

In the absorption plant flow sheet a number of influencing factors have to be considered first such as cooling conditions, temperatures, seasonal sales variations in products such as L.P.G. and Propane. An economic flow sheet is one in which the desired recovery is obtained without having to recycle any gas and which is easily controlled by the operator.

In the past many times when a stream of gas is discovered in a gas plant going to fuel which has recoverable gasoline contained in it, it is recompressed and recycled. These recycles are the cause of very decided limitations on absorber capacities, condensing capacities and compressor capacities, as well as being very uneconomical. A gas stream to be recycled should be carefully studied from the analysis of this gas composition. For instance recently it was recommended by the operating department to return a de-ethanized overhead gas stream to the 450 pound absorbers in order to retain the propane contained in it. This overhead stream was the result of a large plant recycle stream that had been built up and the absorbers were limited as to oil capacity. The de-ethanizer

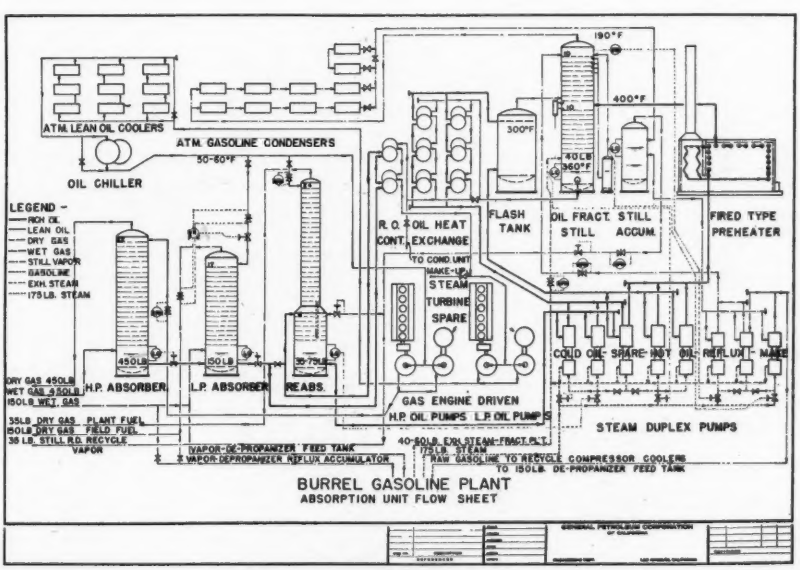


Figure 1

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LOS ANGELES, CALIFORNIA

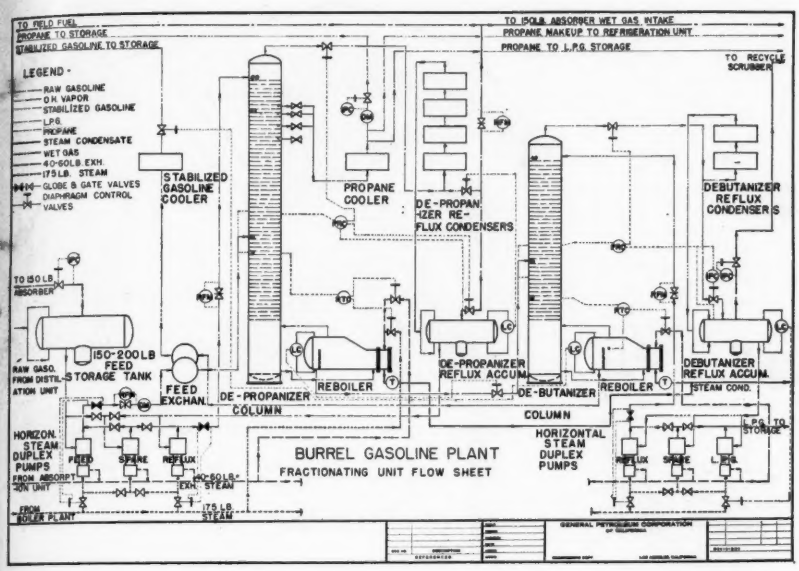


Figure 2

overhead gas actually returned to the 450 pound absorbers approximately 50% as much ethane as was originally contained in the 25 times larger wet gas volume being treated in the absorbers. This built up the recycle further in the plant to a point where immediately several thousands of gallons a day less propane was produced than formerly. In other words the most practical answer would have been to eliminate the ethane by selective absorption, do not recycle any more ethane than is absolutely necessary.

Selective absorption permits balanced operating economy in that by merely changing the oil rate to the reabsorbers, or the reabsorber operating pressure, or the operating temperature of the re-absorber permits either a high propane recovery to meet seasonal demand or permits low propane recovery with the least amount of fuel consumption in the plant. No gasoline plant deethanized, or rich oil fractionator is required in the selective absorption flow sheet hence propane products are not processed which ultimately may have to be re-heated and flashed into fuel when there is no seasonal demand, with a resultant loss of considerable fuel.

Selective absorption permits arranging say a 1050 BTU minimum heat value in the dry gas sales contract and delivery exactly that content to the Gas Company. In the past the dry gas to sales has often carried a much higher heat content than that required by contract.

Selective absorption requires several other supporting plant functions however in order to be properly utilized, and to properly retain a high propane recovery. First, an absorption oil chilling facility will be found to be necessary. Second, the absorption still overhead vapors should be compressed to 150 to 225 pounds pressure as desired and cooled. Since this total raw gasoline stream vapor pressure can be controlled by the reabsorber and can be processed so that this stream is totally condensing it will then be this pressure for fractionating plant found to be desirable to store it at feed. Third, the absorption oil pumps should have a wide range of capacity. Fourth, excess oil to oil heat exchanger capacity will reduce the fuel required for the fired heater and can be used to control the reabsorber rich oil flash temperature. Fifth, design absorbers with the proper number of fractionating plates and use proper plate spacing which are in balance with the overall design. Sixth, proper utilization of the reabsorber gas as fuel.

Next let us look at the Burrel Absorption Plant flow sheet (Fig. No. 2) which was designed along the principles just described. Since we have to consider field fuel as well as plant fuel some ideas of the volumes required had to be approximated for design purposes.

In this flow sheet it is seen that the rich oil from the 450 pound absorber is flashed directly into the base of a 150 pound absorber. Additional wet gas make-up is added to meet the fuel demands as required by proper regulation. The total rich oil from the base of the 150 pound absorber is heated by means of oil heat exchangers to 120° to 180°F. as desired and flashed into the base of a 30-40 pound re-absorber.

The de-propanizer vent gas from

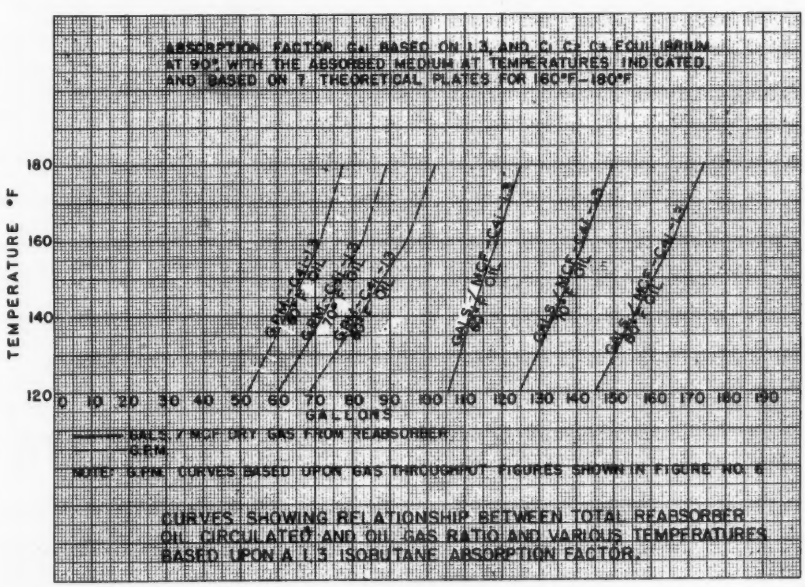
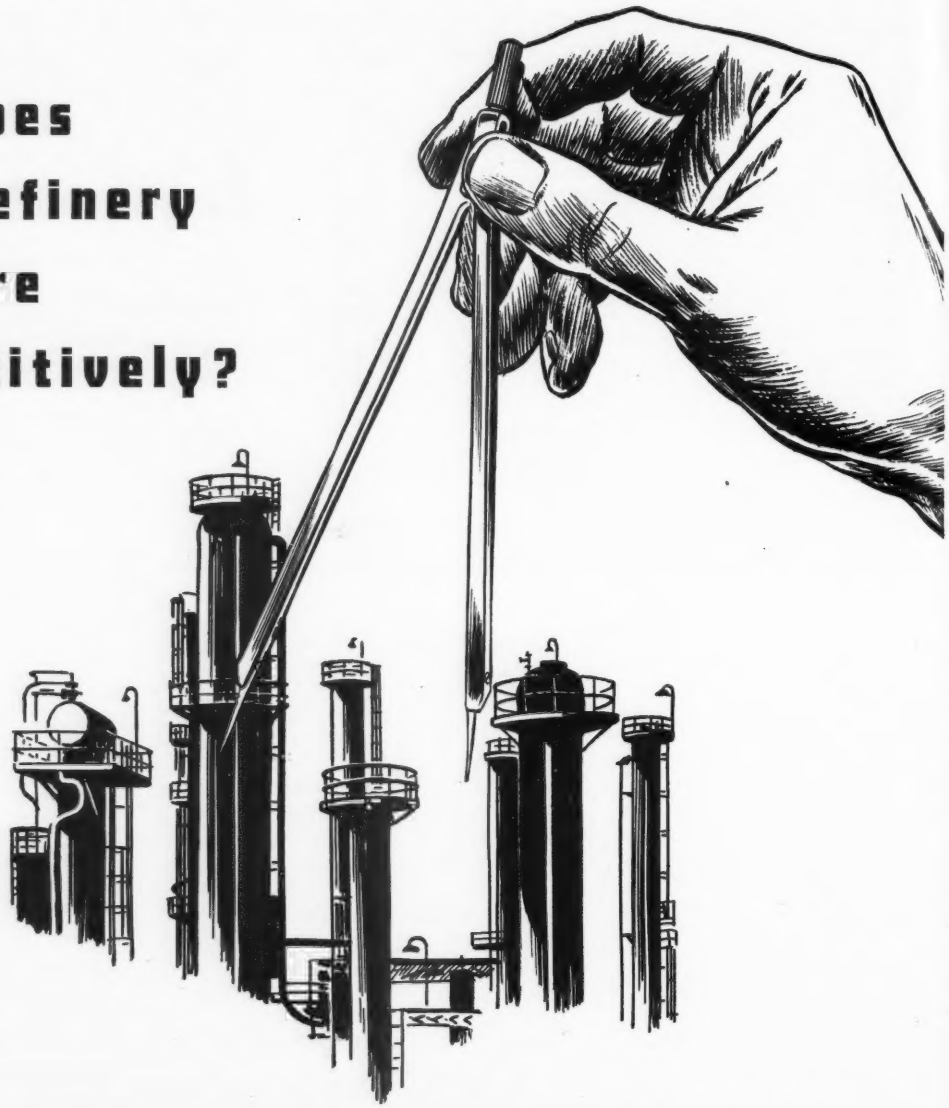

ABSORPTION FACTOR C4i BASED ON 1.3 AND C1 C2 C3 EQUILIBRIUM AT 90# WITH THE ABSORBED MEDIUM AT TEMPERATURES INDICATED, AND BASED ON 7 THEORETICAL PLATES FOR 160°F-180°F
TEMPERATURE °F
180
160
140
120
0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190
GALLONS
GALS. 7 MCF DRY GAS FROM REABSORBER
NOTE: SPINE CURVES BASED UPON GAS THROUGHPUT FIGURES SHOWN IN FIGURE NO. 6
CURVES SHOWING RELATIONSHIP BETWEEN TOTAL REABSORBER OIL CIRCULATED AND OIL GAS RATIO AND VARIOUS TEMPERATURES BASED UPON A 1.3 ISOBUTANE ABSORPTION FACTOR.

Figure 3

How does your refinery measure competitively?



With demand still far ahead of supply . . . with your refinery and those of your competitors operating at peak capacity . . . with no doubt as to your ability to market all of your production . . . actual experience certainly will not give you the answer. But what about tomorrow, when new facilities are placed in operation?

To meet the coming competitive market, you must have the answer today.

Universal can give you that answer *now* . . . plus assistance in maintaining the efficiency and economy of your operation in the face of future competitive problems.

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Universal Service Protects Your Refinery

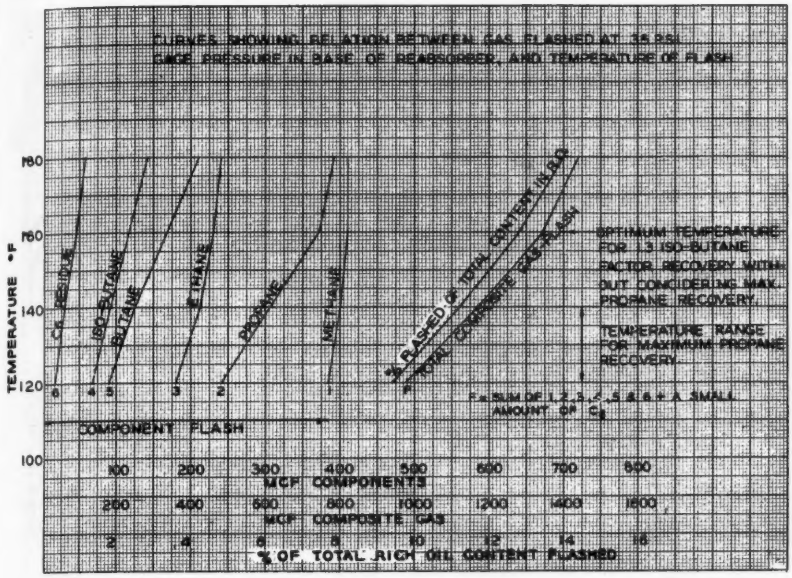

CURVES SHOWING RELATION BETWEEN GAS FLASHED AT 35 PSI GAGE PRESSURE IN BASE OF REABSORBER, AND TEMPERATURE OF FLASH
TEMPERATURE °F
COMPONENT FLASH
MCF COMPONENTS
MCF COMPOSITE GAS
% OF TOTAL RICH OIL CONTENT FLASHED
OPTIMUM TEMPERATURE FOR 3 ISO-BUTANE FACTOR RECOVERY WITH-OUT CONSIDERING MAX. PROPANE RECOVERY.
TEMPERATURE RANGE FOR MAXIMUM PROPANE RECOVERY.

Figure 4

the reflux accumulator may be recycled to the 150 pound absorber or to the suction of the 150 pound wet gas compressor and compressed for treatment in the 450 pound absorber along with the rest of the 450 pound wet gas from the field. This is the only plant recycle. This is not objectionable in this case since most of the ethane has been removed by selective absorption in the reabsorber.

The re-absorber provides fuel for the fired type rich oil heater and for the boiler plant. The compressor and gas engine fuel are taken from the 150 pound absorber as well as additional make-up fuel required for the boiler and fired oil heater. In this manner the largest portion of the ethane and if desired propane is removed from the wet gas and utilized as plant fuel with a high BTU content, which results in a larger volume of dry gas available for sales.

Refer to the reabsorber curves for the design of the Burrel Gas Plant (Fig. No. 3 & 4).

In the design of the 450 pound absorber it will be found that to make an 8 theoretical plate separation, 16 plates are required for absorption purposes and 6 plates for heat exchange purposes, making a total of 22 plates to 24 minimum required for maximum propane recovery. Plates on this basis will of necessity be spaced 24 inches or greater apart. In the design of the 30-40 pound reabsorber in order to obtain a high propane recovery and make say a 6 theoretical plate separation, 18 plates are required for absorption purposes, 6 to 8 plates for heat exchange purposes, and 4 to 6 plates for rich oil flash separation purposes, making a total of approximately 30 plates required in the reabsorber. Here again due to a wide variation of oil rates and gas rates with resultant low gas velocities wide plate spacing is required. A minimum plate spacing of 24" should be used.

In this absorption flow sheet any temperature, pressure, or oil gas ratio change in the operation of the re-absorber reflects itself directly by changing the raw gasoline feed tank pressure.

An aerial view of the Burrel Gas Plant (Fig. No. 5) presented for discussion.

Instrument Assocation Organized in Northern Calif.

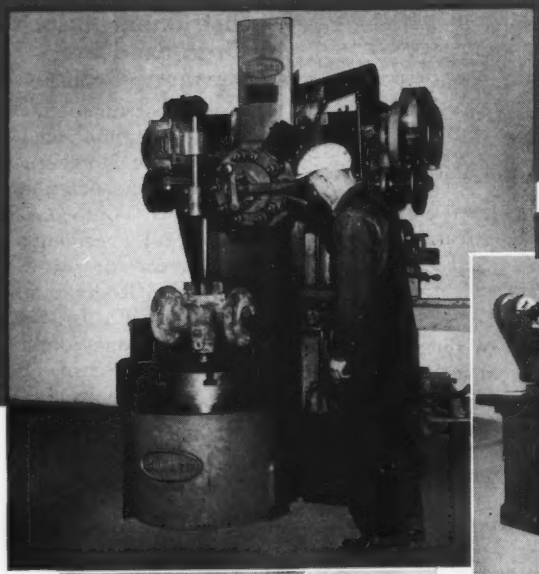
The instrument men of No. Calif. have just announced the organization of the Northern California Instrument Association. The officers are: D. J. Pompeo, (Shell Development Co.) President; W. C. Marion (Alameda Air Base), Vice President; and Roger Stanley, (Standard Oil Co. of Calif.), Sec.-Treas.

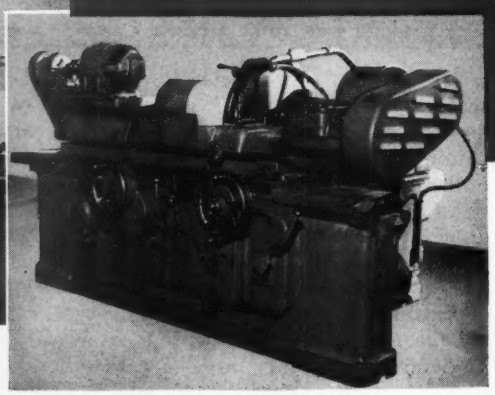
The various committee chairmen are: C. S. Beard (Bechtel Corp.), Program Chairman; M. A. Dimmick, Membership; P. A. Gibbon (Shell Oil Co.), Const. & By Laws; Paul Hoyt (Shell Oil Co.), Auditing; and E. A. Bush, Education.

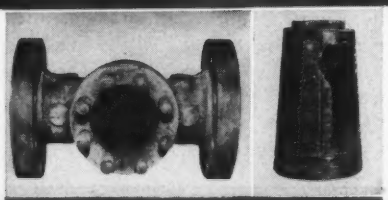
The organization starts out with sixty members and it is expected that the splendid programs that are scheduled will prove of such interest that the membership will increase to include all of the instrument men of the northern part of the state.

Figure 5

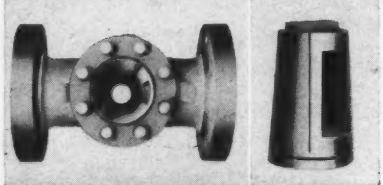
new TOOLS–to do more jobs–better for YOU!







BEFORE—Badly worn valve and plug, typical of those brought in for re-building at Johnson Valve Shop.



AFTER—Valve body, rebuilt and ground to specifications. Valve Plug, rebuilt and hard-faced with No. 6 Haynes Stellite, and precision-ground to specifications.

Vertical Precision Grinding is the factory way to accurately grind valve bodies. The Johnson Valve Shop has the proper equipment to do the job!

The new BULLARD VERTICAL TURRET LATHE (Boring Mill) with a 36" work table and Heavy-Duty Terminal Grinding Attachment, handles even the largest valve bodies and grinds them to accurate specifications.

The new NORTON EXTERNAL GRINDER offers an accurate method for precision-grinding valve plugs to specifications.

Hard-Facing Valve Plugs is a specialty at Johnson Valve Shop

Johnson VALVE SHOP

BAKERSFIELD, CALIFORNIA PHONE 2-5266

Kern County OIL NEWS

WELL, WE TALKED to the presently and currently available sources and respective resources of information . . . public and otherwise . . . concerning PETROLEUM in Kern County and elsewhere as it is related to us.

DEMAND IS OVER supply as usual . . . but did find out that some fuel stocks are going to storage . . . and Dame Rumor herself has it that again for '48's year end inventory the industry will turn in the best report card folks ever saw.

ONE OILWIGGER . . . Figgurer with his Monroe calculator in one hand and his gestures in the other . . . confirmed it . . . "thas right" . . . "figgers show it!" . . . And he is not any junior accountant, either . . . HE IS ON PRODUCTION, TOO. We asked him, for he knows his figures best.

DICK WHITAKER, fresh from Fresno, shunted his public relations call card into our office one day a fortnight ago. It was 8 **a.m.** and we were on the "quevive" which tickled Dick, since he made his success on 8 **a.m.** appointments. Old times . . . "OCD" and Standard Oil Talk were topics in review.

FRANK WIGGINS, secretary of the Los Angeles Chamber of Commerce, had announced twenty-five years ago, according to the "Midway Driller," that he was publishing for his chamber a booklet for auto tourists, the locations of parking grounds in communities. Taft's Secretary announced that while no grounds had been provided, all tourists would be properly taken care of.

WILL SOMEONE CALL THIS TO THE ATTENTION OF **Howard Dallimore?** We flew over to Cuyama and stopped by Taft . . . slept very comfortably in the lobby of the Fox Hotel . . . Believe It Or Not . . .

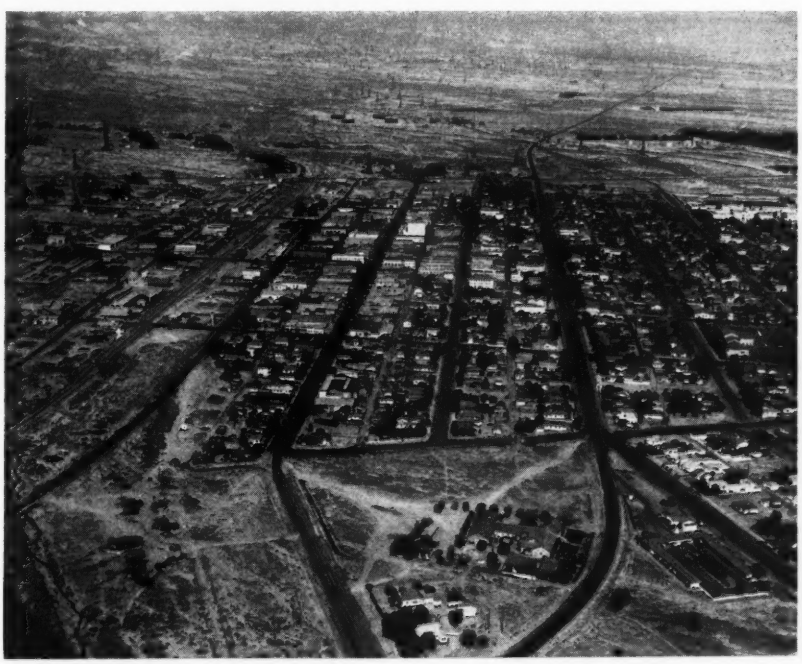
THERE IS NO LIMIT to the success we shall have if we give the credit to the other fellow." Some say this is an old proverb . . . but "COW," or California Oil World, is always doing that. Even the Kern County Oil News does it. Well, it paid off a couple of times. MAYFAIR Hotel has always been just about the headquarters for Kern Oilwigs . . . and we learn now that old man Philbin . . . Richard the **Oilhearted** . . . considers acknowledging the fact.

SPEAKING OF THE MAYFAIR, if you really want to see someone that you have been trying to get on the phone all week . . . just stop at the Mayfair and for the same nickel you can talk to your favorite oilwigger as long . . . in fact, longer . . . than you want to.

SO MUCH for the little Biltmore . . . Dick Philbin . . . the oilwigs and the grapemen, too . . . Dick always gives us the twelfth floor . . . here we get air from Kern County and feel pretty much at home.

WEDDING BELLS rang for JANET RIEDER and DARRELL HENDERSON last month at 3:30 p.m. on a certain Saturday at Santa Ana. Janet is with the exploration department of a well-known oil company at Taft and Darrell is still a student at T.U.H.S. continuing his Junior College work as a result of three years with the Naval Air Service which took some of his time out from education. Congratulations, Darrell.

HERMAN PHELPS of Union Oil Station was seriously injured



TAFT TAKES TOP leadership in serving the eras of "black gold." All the way from 1900 . . . a half century of oil . . . Taft has headquartered either the head office or the branch facility of the principal oil concerns of the world. Even Taxes in the school areas have aided this leadership when millions of dollars in schools, recreation and culture have assured training the "knowhow" by making Taft a better place in which to live. Those on the ground know how to make "knowhow" work the best. . . . Taft has helped to keep the area livable for the brains of the industry. WELL DONE, TAFT.

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of an undamaged production zone with
LUBE SEAL in your completion fluid
LUBE SEAL is a specially prepared compound, soluble in water, for treating water base drilling fluids. It is added directly to water base muds requiring no special mixing tanks or equipment. Lube Seal imparts ideal mud characteristics to drilling fluids affording:
EXCELLENT LUBRICATION—reduced torque, added life to bit & bearings.
LOW WATER LOSS—85% to 90% less than average mud.
THIN, SOFT, EASILY REMOVED FILTER CAKE—the most desirable type of sheath to be removed with the minimum of energy so that maximum production may be attained.
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and a type of paralysis set in as a result of a simple accident wherein he arose from a sitting position to a standing one and struck his shoulder on the corner of a hoist. Hospital attaches report his case improving.

WE WERE SORRY to hear of the passing of Mrs. W. Grace Anderson who played an important part in developing the "great west side" as an oil empire. Besides her husband she is survived by W. A. Poff, a nephew, at Taft.

OILMEN WILL BE HAPPY, perhaps, to know that Frank Latta, Curator Kern County Museum Commission, is spending their tax monies efficiently and well. A part of his program calls for the development of an historical tribute to the oil industry. Drop us a card for more information.

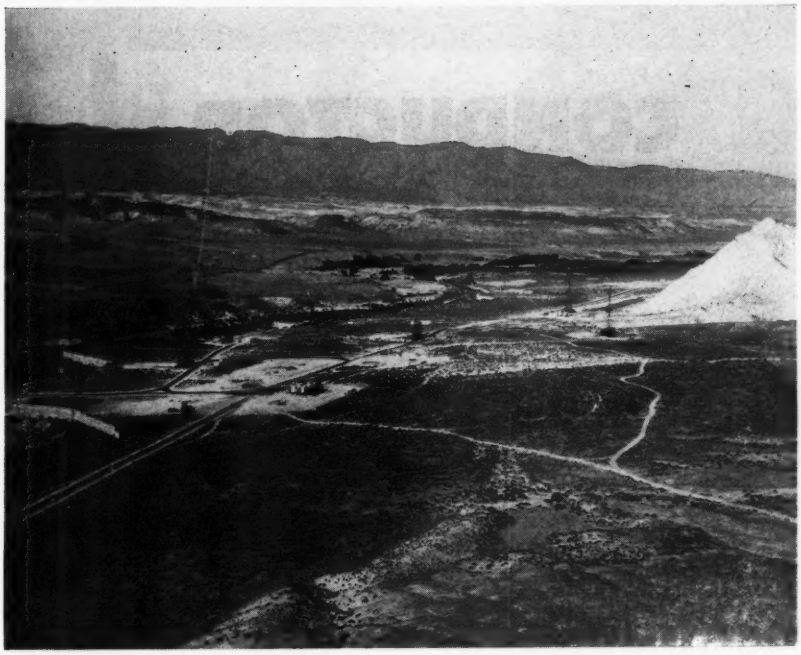
IN 1901 E. J. (ERNIE) FORK used a team of horses to pull pipe casing in OHIO. To Indiana oil boom areas went "E.J.," and thence to Kansas. That part was then a portion of the Indian Territory. Back to Illinois in 1903 . . . "Malaria" ordered him to Wyoming's Salt Creek Fields, 1910 . . . Organized an oil company as a driller in 1922, with oil placer claims opportunity. Gave up and started with Pacific Oil Company in 1924 as a rig builder. By 1948 he has retired and thinks he is better off than even before.

SPEAKING OF FORK reminds us of the General Engineering Company in Bakersfield . . . specialty work for the oil industry. Daines Pollard is a co-owner and a son-in-law of "E. J.'s" . . . his vision has helped such Free Enterprise as this, too.

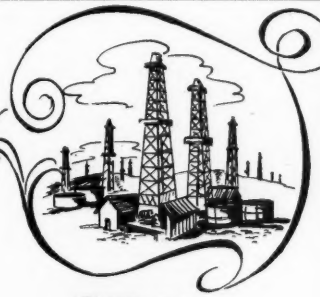
JUDGE ANDERSON of Maricopa . . . there's a judge . . . and a man, for you. He likes to make out fine receipts for over-loaded trucks . . . 90 miles per hour, dopes . . . and confine contacts to Cuyama over from his bailiwick to success. Judge used to be Secretary of the Oilworkers Local around Midway Sunset areas. He is known as "Ham" Anderson because when he was a kid in old "Knoxvull," Tennessee, he was always carrying around a hammer. Contrast to this is the fact that maybe "every knock is a boost" . . . because he is past president and still a director on the big

Kern County chamber of commerce. Ham recently did himself a lot of good . . . at least for "them kids" of his'n . . . when he cleaned up a lots of leases on his forty-acre homestead in Cuyama that he just hated to sell or lease . . . only reason he did was that he kind of retained all the surface rights for "dove shootin'." and the regular customary 6 or 8% royalty. He confessed . . . logically . . . that he really doesn't want to make any money on his friends who kept after him to sell something.

WALTER GOLDHAMMER of the "GP" accounting division should have been a part of the public relations program of "GP," too, because he is such a humanist along with his facts and figures. Walter always overestimates the other person's ability and that makes him (the OP) buy more "GP" bas, if nothing else . . . He does it unintentionally, too. That is, Walter does . . . Great guy, this Walter . . . some day someone is going to discover him . . . not at his old desk, but in his new office.



CUYAMA VALLEY . . . over the hill from Kern County . . . Maricopa and Taft. California's new oil province is located in our neighbors backyard. Kern, Santa Barbara, Ventura and San Luis Obispo Counties have a great mutual interest, greater than ever before. Here a new townsite affords old friends with a look that is "new". Here also are highway, survey, and oil problems that were never so common before and their cooperation is a real "at-home-version" of $ Diplomacy. . . . You'd be surprised how everything is "SO" oilright just now. Even the State of California is happy to see the "dish run away with the spoon."



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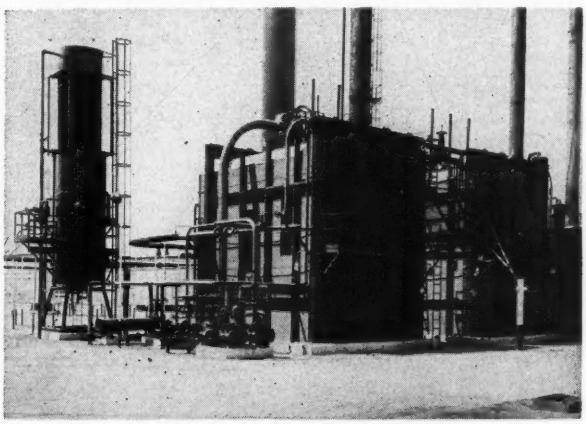

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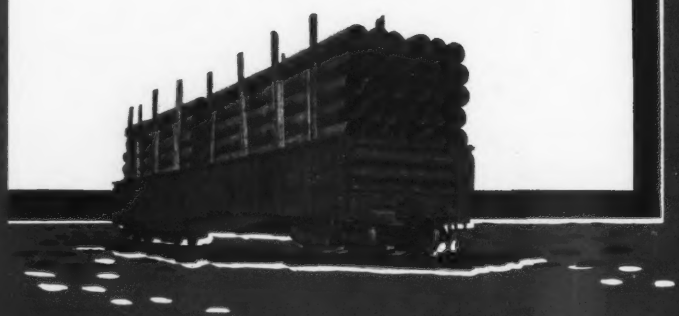

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OIL IS AT SEA . . . and Kern is apprehensive of Humble Oil and Refining Company's new strike seven and a half miles out at sea in the Gulf of Mexico. Kern has supported the Tidelands Bill and hopes that in doing so the price of crude and the demand will not be altered as far as her selfish interests are concerned. The new four-billion-barrel predictable is still without transport to the mainland . . . more wells are planned at the 8600 foot level of particular sand . . . a floating pipeline is on drafting boards.

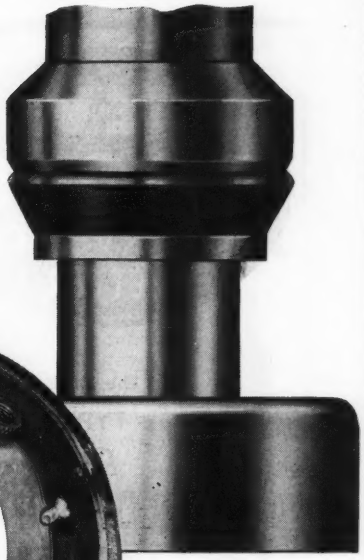
SAD NOTE OF DISCONTENT comes as some oilfolks demand that their industry be represented at the Fairs . . . Western Oil and Gas Association which does a bang-up job for the oil companies, should created its own exhibit . . . move it around from fair to fair over the country and make it available for various civic or service organization groups. Kern County is twenty-five years behind the times with its educational oil exhibits, except for what individual companies have done . . . the oil industry "bigwigs" should not let other sources try to represent them.

OILMEN OF KERN are very much interested in MARICOPA schools. Wiley K. Peterson tells us that he is expecting larger school enrollment on account of "agricultural" as well as "industrial" Cuyama. Some of us guys are wise and hope that Kern can be made a rectangular instead of a Nebraska-like shape so that neighboring counties can help buy orange juice for the kids of their'n. Tax minded folks are trying to annex Cuyama valley already.

OUR FRIEND FRED FREY reports that Helen is now at home recuperating from a recent surgery need at Taft Community Hospital. We have known them over at Fellows for oh! these many years. Helen is an "A" student and an "A" office technician for the Oil Industry. Fred is an "A" production man, too, and has kept the country in oil as far as his part appears.

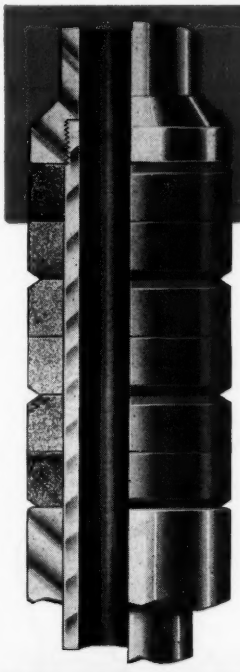
HAVE NOT HEARD FROM Ernie Blanck for a long, long time. Wonder if he is now too big an

WE THOUGHT *Everyone* KNEW ABOUT THESE BY NOW



FLOPAK VALVE SEAL

But we still find people who don't know about these two things which help Lane-Wells Packers give such outstanding service. First, the FLOPAK VALVE SEAL—made of a special compound which not only resists the effects of oil, erosion and chemical inhibitors, but makes and maintains a perfect seal under differential pressures to 7,000 p. s. i., even at temperatures to 300° F.— *And even with obstructions on the seat!* The valve seal pictured did just that!



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operator to be on the list of "Individual Entrepreneurs" . . . Never can tell . . . but anyway we use Ernie as our Guinea Pig for the free enterprise system of doing business and doing good. Ernie used to keep prices down without the use of special sessions of Congress when he had the General Store at Fellows.

OWEN JOHNSON must have gone fishing again because his "scarceness" is noted.

ERNEST ELLERY returned from Crater Lake where it was snowing for a time, and arrived in Kern as "Arthur" pitched a new high for the season. (Arthur is the short for OUR THERMOMETER) . . . A good reason for not taking your vacation in the summertime.

JUST A FEW MINUTES AGO we called Paul J. Howard, Kern's popular oil consultant . . . who is still **away** but on his **way** back from New York and parts eastward. Haven't talked to Paul since the tax rate was set and the new valuation posted. One thing certain, Paul and us do not agree on every item along this line but we are not disturbed over it. Paul will be surprised to see the rate as low as it is or as high as it is perhaps to him . . . to us, we think we were lucky and lucky in having a good assessor if you all will pardon us for saying so.

E. C. (Carrol) EMMONS and his good wife have just returned from Tehachapi where the monthly board of directors meeting takes place for several days at the California Institution for Women. We think "Curley" has done the best job anyone could do in such humanizing work as is required to properly administer justice and care and aid to unfortunate persons. It may not be necessary to be as humanizing as Emmons is, but it certainly must help to have patience and understanding . . . working together. Curley who is sometimes known as the "Senator," owns the successful E. C. Emmons Supply Company at Taft. Presently he is helping discover Cuyama.

CALIFORNIA STATE FAIR which opens this month closes just in time to let Kern open its exhibits at Pomona or Los Angeles County Fair. Ned Greene, a Kern County oilwig and agriculturalist is the general manager. Ken Fry in charge of Exhibits from Counties likes to rib Kern about its lack of mineral and oil displays . . . not as a county exhibit but as a leading oil county . . . thinks folks should see oil by itself . . . outside the service station stage . . . in "geology."

SOMEONE JUST SHOUTED "Snatu" instead of "snafu" as they said it in the army or was it navy? Anyway the civilian meaning is "situation normal all taxed up."

ONE OF THE MOST pleasant meetings we had the other day was with JOHN M. PIERCE . . . he

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certainly takes his job in stride and seems to like it. His orderly reception makes one think that everything in the world has been completed on his desk . . . and that he was just there waiting for you to come in and talk about the only thing worth while left in the world . . . "YOUR PROBLEM." Our ambition as a result of this visit? . . . do just like John does. Always thought he was a technical tax consultant and that was it . . . but if you want to get a nice free lesson in public relations and orderly development of a solution for your needs . . . run up and see him sometime. That's right, at the Western Oil and Gas Association office top floor at 510 West Sixth Street.

ALWAYS RUNNING INTO the three wisemen of the oil fraternity as regards the affairs of community building and geology. First HERM WEDDLE planning on his 1949 vacation 52 weeks from now . . . then DON RIST planning on several things . . . and finally all within the hour . . . Frank Sullivan trying out the state highways as they traverse the city. Frank is now identified with Nile Avenue as the copyright owner of the Sullivan Plan for Nile Street.

THAT REMINDS US that Kern County delegates were headed by Supervisor Barney Barnes who presented to the great state chamber all of Kern's state highways needing improvement based upon the oil and agricultural needs of the Golden Empire. JOSH CLARKE heads up this division . . . president of the Cross Country Highway Association.

HARRY J. CROSSAN has returned from the great Bridgeport country and this marks his quarter of a century hike to the tall country. Kern County Bank has a new look with Manager Harry's vacation Tan.

LAWRENCE D. PRITCHARD, vice president of the Bank of America, was the principal speaker at the 41st Annual meeting at Stockdale, and he told us afterward that none of the Los Angeles folks realized, or would they believe Kern had anything like Stockdale to tell about.

RECENTLY WE HAVE heard and read a lot about "stockpiling" of the strategic or critical materials. About the best the oil industry can expect is its perpetual stockpiling by conserving the underground reservoirs. The Wall Street Journal reports that only about 25% is on hand or at sight as far as the 67 key items are concerned which originally involved about a three and a half billion dollar program. NMB reports, "badly out of balance."

THE W. S. JOURNAL reported on Dude Ranches a few weeks ago . . . this past week it was "Candy" and "Flowers," stories that proved a breather from oil stocks and scout reports on drilling wells.

BOB POTTER OF KERNCO MATERIALS does not handle potter's clay but he comes pretty close to it when he sells Muroc Rotary Clays. . His oil mud made a record for itself down at the Ohio Oil Well at Arvin . . . **"a no dope"** well. Bob reports that he has sold mud to everyone in Kern County but one firm and all he can do now at present writing is to Pray.

KERN WAS PROUD TO HAVE some of its native sons and daughters come down from Coalinga last month . . . The Newtons of Newton, Newton & Newton Drilling Company. The Mr. and Mrs. in particular were more than having a business visit. Bernard Lohr a dyed in the wool potato man was hobnobbing with the sixsome at the "oilzone" drilling contest. Later at Bakersfield Inn the party was joined by mining and cattle people. All of the resources of Kern were represented perfectly.

COTTON HOLDER was around too but he has nothing to do with cotton. Just returning from Kaiser's "Tacopa" at Baker, Cotton was after doves.

SPEAKING OF DOVES . . . Cotton tells a story about Bob Potter who complained about the shortage of doves to the extent in a certain Baker or Las Vegas hotel . . . that when he left two carrier pigeons flew out of his hat and he gets serious about the mentioning of them!

OUT AT STOCKDALE came Los Angeles chamberwigs nineteen in number who never to themselves have said before, "this is the setting we should have in Los Angeles." It was a perfect event for an annual meeting of any chamber of commerce and the Kern facility played host. Even the outdoor barbecue was temperatured at 69 degrees . . . the wind velocity was a mild 2 miles an hour and not a mosquito showed up. A perfect barbecue.

CONGRATULATIONS to Walter Kane, general manager of the Bakersfield Californian . . . Manager Caterer Oscar Greene of Minter Field Officers' mess fame . . . and not least but last "Thanks for the use of the Swanky Club prexy Charley Lake and his board of directors.

SOMEONE HAD A GOOD SUGGESTION last month when it was announced that the oil industries' trade association should expand its program of work in taxes, legislation, public relations, to include advertising with good emphasis on EXHIBITS before state fairs and expositions. National and regional conventions are always looking for a program of this nature to create interest and a form of information for guests.

THANX TO JOE NEBRON from up and down the Oil Empire of California locating leases, buying and selling them, and using the popular oilman's section map now available most anywhere in Kern County. Joe praised the County of Kern to the sky.

JAMES (M . . . for mighty fine guy) CONLON has his own Company in Los Angeles after having been identified with BAROID a long long time. JIM HILL formerly with Hughes 15 years represents BAROID now up here.

WE ALMOST FORGOT TO add that C. E. VAN STONE, an old friend of Kern's with Shaffer Tool in Taft so many years, was over and Machine Works is his concern and his representative is Regan from Santa Maria. California Tool Forge & Engineering Company, Bakersfield.

ARTHUR WALLACE has retired according to our information, from the Pacific Coast Managerialship of the Western Gulf Oil Company.

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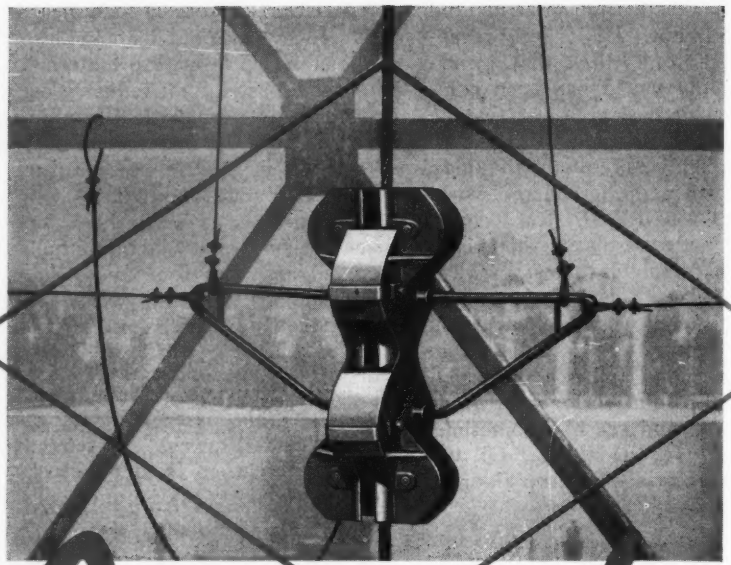

PROTECT YOUR RIG FROM WIRE LINE WOBBLE

Wire line whip causes uneven spooling and piling up of the line on the drum. Kill this whip and reduce chances for wire line trouble with the NEW Patterson-Ballagh ROLIGUIDE. This roller type Wire Line Guide operates in freezing weather and easily handles both dry and lubricated lines.

Vibration and whip do not have a chance when you install the new Patterson-Ballagh ROLIGUIDE on your rig. The greater over-all length of the Guide and the large number of rollers give the stability that efficiently kills vibration. Each of the eight rollers rotates on two races of grease packed, over-capacity ball bearings. They absorb the vibration and transmit a larger portion of it to the body of the Guide and the hanging assembly. Each long-wearing roller is completely housed in the body so that it *can not* drop out or throw oil on the crew or rig.

EACH ROLLER, code: ROLIFILL, is covered with tough, long-wearing rubber. Easily replaced in Wire Line Guide. Additional rollers furnished on order.

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LAUGH THIS OFF!!

Blonde: "Now that we're engaged, you're going to give me a ring, aren't you?"

Gob: "Sure, beautiful. What is your phone number?"

Man (at lunch counter): "There isn't enough beef in this beef stew to give it a flavor."

Waitress: "The beef isn't supposed to give it flavor. We just throw it in to give it a name."

I'm through with women, they cheat and lie;
They prey on males, till the day we die.
They tease us, torment us, and drive us to sin—
Say, who's that blonde that just walked in?

"What is more beautiful to behold than a pretty girl?"

"Such grammar. You mean to be held."

"Have you any children, Mr. Smith?"

"Yes—three daughters."

"Do they live at home with you?"

"No—not one of them is married yet."

Mother: "Now, Junior, be a good boy and say 'Ah-h-h,' so the doctor can get his finger out of your mouth."

Judge: "On what grounds are you applying for a divorce?"

Mr. Brown: "Extravagance, your Honor."

Judge: "Extravagance, how is that?"

Mr. Brown: "She kept on buying ice after I had installed an electric refrigerator."

"Say, neighbor, you ought to pull your shades down when you kiss your wife. I saw you last night."

"Ho, Ho! Joke's on you! I wasn't home last night."

"My wife tells me that almost every night she dreams she's married to a millionaire."

"You're lucky. Mine thinks that in the daytime."

The young husband came home from the office. "What's the matter, dear?" he asked his young wife. "You look upset."

"Oh, it's been a dreadful day," his wife said. "First the baby cut his first tooth, then he took his first step, and then he fell and knocked out his tooth."

"Well, then what happened?" asked the young pop.

"Then, darling," cried the young wife unhappily, "then he said his first word!"

A man about to be electrocuted phoned his lawyer from the death chamber. "They are about to put me in the electric chair," he said. "You are my lawyer—what do I do now?" The lawyer answered helpfully, "Don't sit down."

An ensign had been giving a certain blonde the once over at a party. Finally, he moved over close to her. "Pardon me," he said, "I'm with the U. S. Navy. Whom are you with?"

Irate traffic cop: "Don't you know you can't turn around in the middle of a block?"

Lady driver: "Oh, I think I can make it, thank you."

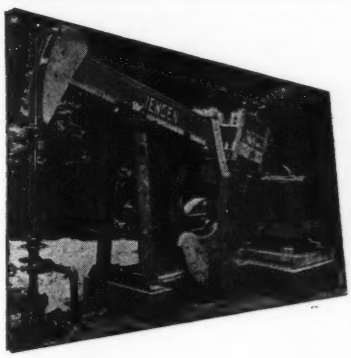
My mother-in-law arrived today; it makes me sad indeed, for now within our household there's another mouth to heed.

We don't know — but we read a verse the other day that said:

"Eating more than she was able,
Mary died at the breakfast table,
seeing which, said Cousin Meg:
'May I have her other egg?'"

Employer: "For this job we want a responsible man."

Applicant: "Then, that's me. Everywhere I've worked when something went wrong I was responsible."



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If you're a producer and don't know about Jensens, see your local dealer or write to Coffeyville. We'll crown you with some facts and figures on pumping unit efficiency. Do it today.

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Personalities IN THE NEWS

British-American Announces Personnel Changes

C. D. Miller, Executive Vice President, The British-American Oil Producing Company, announces the following changes in personnel in the Western Division—

O. I. Torkelsen, at present Manager of Exploitation of the Western Division, appointed Vice President in charge of Western Division.

O. I. Torkelsen

J. E. Matter, at present Chief Geologist, Western Division, appointed Vice President in charge of Exploration of Western Division.

O. W. Ward, at present Production Superintendent for the San Joaquin Valley, appointed Production Superintendent for the Western Division, with headquarters in Los Angeles.

M. V. Adams, at present Petroleum Engineer for the San Joaquin Valley, appointed Production Superintendent for the San Joaquin Valley, with headquarters in Bakersfield.

O. I. Torkelsen was born and reared in Minnesota, and chose The University of California, Los Angeles, where he received his degree in Geology. The two years following graduation were spent with Reiber Geophysical Company. He then established headquarters in Los Angeles and became a Consulting Geologist, doing field work in California, West Texas, and New Mexico. In 1939 he was employed by The British-American Oil Producing Company as Geologist, spending much of his time with the Production and Engineering Departments. He was made Manager of the Exploitation Department for the Western Division in 1945, serving in that capacity until his present appointment.

J. E .Matter, a native of California, graduated from the University of California, Los Angeles, with a degree in Geology. After two years of graduate work with the University of Munich and School of Mines at Freibuerg, Germany, he returned to this country and entered the employ of the Shell Oil Company at San Antonio, Texas. Following this he became affiliated with The British-American Oil Producing Company and worked as a field geologist in California, Wyoming, and Montana. In 1945 he was made Chief Geologist of the Western Division, remaining in that capacity until his recent appointment.

J. E. Matter

Clark Bros. Co., Inc., Olean, N. Y., manufacturers of compressors, announce the appointment of Thomas C. Webb as their District Manager for Venezuela. His official address is—

Clark Bros. Co., Inc., Office 119, Edificio Planchart, Puente Mohedano, Caracas, Venezuela.

Mr. Webb has had an unusually wide experience in the petroleum industry, covering production, refining, gasoline and distillate recovery.

After majoring in refinery engineering at the University of Tulsa, Tom worked for some years in the Oklahoma oil fields and with L. S. Gregory, a consulting engineer in Tulsa. He joined the Clark engineering staff direct from the U. S. Bureau of Mines and for the last eleven years has been associated with Clark Bros. in that company's Technical Service, Engineering and Sales Departments. With his wide experience in the petroleum industry, Mr. Webb is amply prepared for his new duties in Venezuela.

T. J. Lingle has been appointed general manager of the Fontana plant of Taylor Forge & Pipe Works. Lincoln Hall remains as Pacific Coast sales manager with offices in the Subway Terminal Building, Los Angeles.

A. J. McCue is president of the Pine Canyon Oil Co., which has been organized to develop California oil lands. Robert M. Bushnell is vice president and James H. McCue, secretary-treasurer.

New Emsco Assistant Sales Manager

Mr. K. F. Forsyth, Manager of California and Export Sales of Emsco Derrick & Equipment Company, announces the appointment of Mr. Vaughn A. Euge to the post of Assistant Manager of California and Export Sales, effective August 1st. Vaughn has been with Emsco since 1933, starting in the shop and advancing via Production Control, Warehouse, Material Control, Sales Order to his present position. He attended Loyola University, where he graduated with a Bachelor of Science degree, majoring in Commerce and Finance.

Vaughn A. Euge

C. D. Miller, executive vice president of the British-American Oil Producing Co., announced in Tulsa the following changes in personnel in the western division: O: I. Torkelson, present manager of exploitation, becomes vice president in charge, western division; J. E. Matter, at present chief geologist of the division, becomes vice president in charge of exploration; O. W. Ward, now production superintendent for the San Joaquin Valley, to be production superintendent for the division and M. Z. Adams, present petroleum engineer for the San Joaquin Valley, is elevated to production superintendent in the same district.

Arvin B. Shaw, Jr., of the legal firm of Stewart, Shaw & Murphey, was the main speaker at the monthly luncheon meeting of the Petroleum Accountants Society at the Los Angeles Biltmore Hotel. His topic was the California-Arizona water controversy. E. M. Jacobs of the Texas Co. was chairman of the day. The society is headed by John F. Baumgaertner of the Ohio Oil Co.

Fred H. Hammer, formerly associated with the Continental Companies at Long Beach, has opened his own office for the purpose of engaging in oil land leasing and other related business affairs. He has been closely identified with California's most important oil development campaigns.

Miss Alma Benjamin, comptroller for Severns Drilling Co., has returned from a vacation at Big Bear Lake, Santa Barbara and other points of interest on the Pacific Coast. Miss Benjamin rounded out 15 years with the company last July 17.

Clifford Hancock has resigned as vice president of the Caminol Co., long active in the refining and marketing branches of the oil industry. He also has relinquished his post as secretary-treasurer and director of the Independent Refiners Association. Caminol Co., which last October closed its Santa Fe Springs refinery, plans to shortly close its Los Angeles office and in the future conduct all business from the plant at Hanford.

Byron-Jackson Co. recently honored Mabel Turner, who has completed her 40th year of association with the "Byjack" organization. In honoring her, President E. S. Dulin of the company, pointed out she was receiving the first 40-year pin to be awarded by the concern.

Gus Pongratz, widely known California oil producer, is spending much time these days guiding his exploratory well near Grand Junction, Colorado.

Among guests at the recent meeting of the Coast Geological Society at Santa Barbara were W. E. (Ed) Larson and Lloyd Calhoun, McCullough Tool Co. engineers at Los Angeles. Calhoun presented a timely talk and slide films on the "Application of Electronics in Oil Wells." Some 60 engineers and geologists from all parts of the state were in attendance at the meeting.

Fred Manning, center with gun, nailed this deer in the Santa Ynez Mountains, north of Santa Barbara. Manning, head of one of the country's largest contract drilling organizations, is drilling a test in his own right in Santa Ynez Valley on the Lazy R G Ranch. His deer hunting companions are Bill Froelich and G. E. Kinsey.

YOUR CAR NEEDS OUR KIND OF CARE

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To give you its *best* service, your car needs a lot more than "gas," oil, lubrication and air in the tires. But, cars today are so remarkably dependable that it's easy to forget some of the things that should be done to keep them in *top* condition.

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EXTRA LOW PRESSURE — ABSORBS ROAD SHOCKS ➡

HELPFUL ASSOCIATED DEALERS

TIDE WATER ASSOCIATED OIL COMPANY

Promotion of A. W. "Art" Titus to the position of production foreman, senior grade, for General Petroleum Corporation at its Wilmington plant was announced today at the company's office in Los Angeles.

Mr. Titus who joined the concern in 1924, has progressed through various production ranks to his present position. At one time he was stationed in Alaska.

A veteran of Army ordnance in World War I and father of a son who served in the Army Air Forces in the last war, Mr. Titus is the holder of five battle stars.

Several California oil retailers were in attendance at the National Congress of Petroleum Retailers held in Johnstown, Pa. Art Carpenter, president of the Northern California Service Station Operators Association; A. M. Ogle of Berkeley, regional vice president of the National Congress and active in Alameda County chapter of the NCSSOA; H. L. Kuykendall of Martinez, secretary of the northern group; and R. Hamilton, officer of the Solano County chapter, were on hand for the gathering.

Phil Klipstein, whose extensive properties near Pattiway are the scene of a new exploratory campaign, is one of the state's most prominent cattle raisers. He also is a breeder of thoroughbred horses, with the Klipstein colors familiar at all major tracks.

C. L. (Brownie) Brown, Signal Petroleum at Ukiah, is a great baseball fan. He spends much of his spare time during the baseball season as manager of the Ukiah Merchants Baseball Team, which currently is leading the league.

Roy M. Bauer, gas supply supervisor for Southern California Gas Co. and Southern Counties Gas Co. was in attendance at the recent hearing of the Federal Power Commission in Washington, D.C. The hearing was called in the interest of the applications of the Southern California gas companies and the El Paso Natural Gas Co. for authority to construct another Texas to California pipeline.

CANDID SHOTS TAKEN AT THE NOMADS' WHING DING

In the pictures above are (left to right): A. H. Agamenoni, Dave Bowen, Walter Greenfield, Ross Chambers, Knight Templeton, Bob Shira, Harold Atkins, Harry Quintrell, J. H. Cooke, J. H. Angsburger, Guy Barklay, W. F. Macrate, Fred Ripley, George Anderson and Ted Jurling.

Eastman Transfers Personnel

Recent transfers of executive personnel have been announced by H. John Eastman, President of the Eastman Oil Well Survey Company.

Clyde Stokenbury

Clyde I. Stokenbury, manager for two and a half years of the Dallas office of the Company, has been made District Manager of the Bakersfield, California office, a position he held prior to the Dallas assignment. The Dallas office has been combined with the Company's expanded Oklahoma City district.

Roland Armell, former manager of the Bakersfield District, has been made assistant to Ross E. Wiley, Pacific Coast Division Manager, at Long Beach. Mr Armell, who has had wide experience in all divisions of the Eastman organization, recently spent a month in the General offices of the Company in Denver, and visited the Calgary, Alberta office.

Wm. D. Compton, formerly of Eastman's Long Beach division, has been promoted to General Field Manager of the Eastman organization, and transferred to the General Offices in Denver.

Don E. Woodward, of Eastman's Houston office, will be placed in charge of a new Eastman office to be opened soon in Abilene, Texas.

Roland Armell

Hydra-Line Appoints Key Executives

Blaine Johnston, General Manager of the HYDRA-LINE Division of Johnston Enterprises, announces the affiliation of George W. Sinclair as Chief Engineer, R. B. (Bob) Luirette as Chief of Quality Control, and Carl H. Engelmohr as Sales Engineering Manager.

Sinclair, who graduated from the California Institute of Technology, has had a wealth of oil field experience which equips him for his new position. He worked as Engineer for the Reed Roller Bit Company in the '30's and later as Chief Engineer and Shop Superintendent for the Chester T. Allen Core Drilling Company in Bakersfield. During the war years he was associated with the Willys-Overland Company. Until his affiliation with the HYDRA-LINE he managed his own firm of consultant engineers, which specialized in the design of large hydraulic machinery.

Luirette was formerly Project Engineer in charge of International Derrick & Equipment Company's mid-continent mobile rig development program. Previous to this experience he was an engineer in the California Division of the same company. Prior to this he was engaged in precision hydraulic inspection. These activities are a fitting background for the unique position he will hold with HYDRA-LINE. This position charges him with the responsibility of all plant inspection, as well as field service work, both of a curative and preventive nature.

Engelmohr majored in Marketing at the University of California at Los Angeles, and was, until recently, Service Manager for the Western Division of the International Derrick & Equipment Company. He has spent ten years in the oil fields of the Mid-Continent and California areas in sales and sales promotional work. Prior to that time he had been employed by the Carnegie-Illinois Steel Corporation in Chicago. His new duties include, among other things, market analysis, advertising, publicity, and sales order division functions.

C. H. Engelmohr

G. W. Sinclair

R. B. Luirette

E. R. Baker has been appointed manager of Continental Oil's new development and research department. Baker, prominent chemist and wartime assistant research chief in chemical warfare for the Army, formerly was director of development of Emery Industries, Inc., Cincinnati, Ohio.

The highest international award in photography has been given H. R. Luck, head photographer for Shell Development Co. The award was made in recognition of Luck's work at Emeryville, and which admitted him to the fellowship of the Royal Photographic Society of Great Britain.

Clayton Severns, Los Angeles producer and contract driller, has returned tanned and refreshed from a vacation jaunt at Mill Creek in Tehama County, California. Severns a veteran member of the drilling fraternity, is one of the best known oil men in the state.

Technical Service Company to Represent Cypher System

The Cypher System Inc., Long Beach Oil Electrolysis Control firm recently announced the appointment of Technical Service Company as their exclusive California representatives.

The Technical Service Company was organized by Warren Woodruff, president, in May 1946 to handle products of a technical nature for the producing departments of the industry. The organization is composed of a service manager, Mr. Tom Homer with headquarters in Los Angeles Basin and Mr. Henry Dobie at Bakersfield, who handles the San Joaquin Valley sales and service.

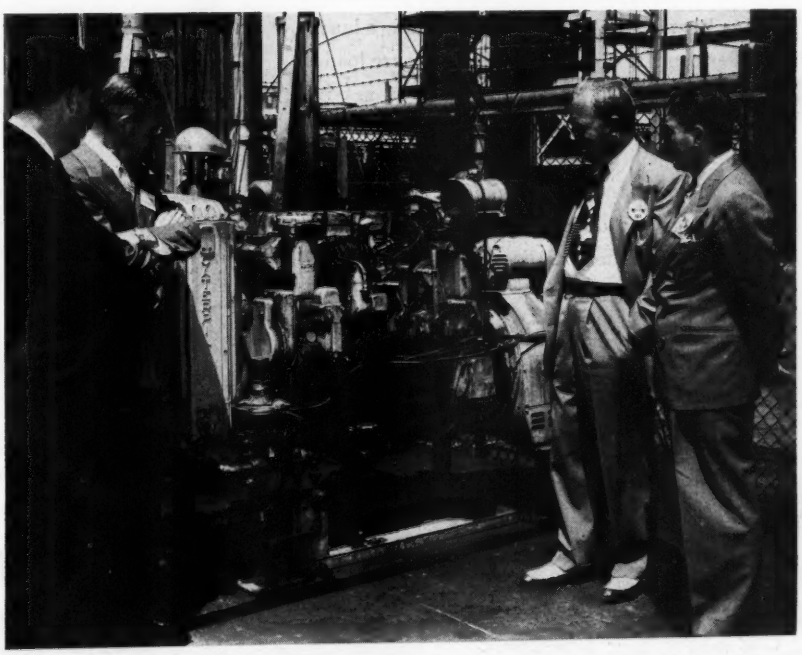
Mr. Woodruff received his Engineer's degree from the University of Southern California where he majored in Electrical Engineering. Upon graduating he spent several years with General Electric at Schenectady, N. Y.

Mr. Woodruff returned to the oil industry in 1938 when he went to work for the Union Oil Company at Santa Fe Springs. Shortly after Lane-Wells entered the Electric Logging field he joined their organization and eventually became district superintendent at Bakersfield. His electrical engineering background combined with his knowledge of the oil industry ideally fits him to direct the sales of the Cypher System.

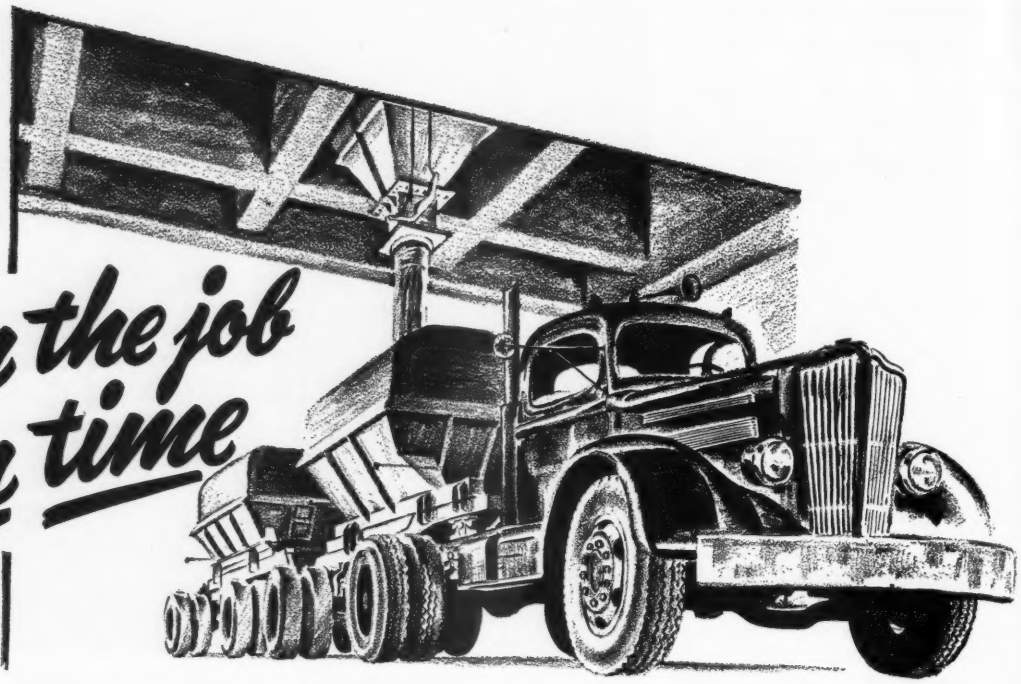
Mr. Tom Homer who supervises the service and testing departments for Technical Service joined the company in July 1947. His oilfield background dates to 1932 at which time he went to work in the Venice oil fields. He later joined Pat Elliott on the Geoanalyzer. When Lane-Wells purchased this company Mr. Homer went over to their organization. After covering most of their California Districts as assistant District Superintendent, Mr. Homer was promoted to California operating superintendent which position he held at the time he left Lane-Wells to join Technical. Henry Dobie who handles sales and service in the San Joaquin Valley went to work in the oil fields in 1922 and has spent the past fourteen years in sales and service work. He formerly worked for Halliburton Oil Well Cementing and held the position of Sales Engineer for Lane-Wells at Bakersfield the past five years.

Warren Woodruff, Tom Homer, Henry Dobie.

All of the men connected with Technical Service Company are exceptionally well qualified to give oil companies outstanding service on their oil well Electrolysis problems.



Four participants in the Educational Conference of Diesel Engine Manufacturers' Association, August 17, 1948, looking over one of many diesel engines being tested at the laboratories of the California Research Corporation, Standard of California subsidiary, at Richmond, California. Left to right are, H. G. Nagel, and W. J. McIntosh, of Fairbanks, Morse; George Morton, Hallett Manufacturing Company, Los Angeles, and George Anger, Bendix-Scintilla.



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PERMANENTE OIL WELL CEMENTS

■ "CONSTRUCTION"

Type C—For wells down to 4,000 ft. deep. Where temperatures range from atmospheric temperatures to 140 degrees F.

■ "MODIFIED"

Type S—For wells 4,000 to 8,000 ft. deep. Where temperatures range from 140 to 170 degrees F., or where more time is needed to complete job because of depth.

■ "HIGH TEMPERATURE"

Type D—For wells deeper than 8,000 ft. Where extreme temperatures are encountered and a maximum amount of time is needed to complete the job.

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Field Development

PREPARED FROM CALIFORNIA OIL WORLD NEWS SERVICE

Los Angeles Basin

Placerita Canyon Continues Active

One of the most active areas in the Los Angeles Basin is Placerita Canyon not far from Newhall. Standard of California has completed Placerita No. 2 on Sec. 6-3n-15w at a plugged depth of 1150 feet for a yield of 15 barrels of net oil a day. No. 3 on the section is ready to pump from 1061 ft. No. 4 is drilling at 250 feet. Indian Oil Co. is rigging to pump its Wanda Kraft No. 2 on Sec. 31-4n-15w. Total depth is 840 feet. Placerita No. 1 is a location on the section. Grading is in progress for Nelson-Phillips Oil Co.'s Kraft No. 4 on Sec. 31-4n-15w. Deepened from 1005 feet to a bottom at 1205 feet, Parbe Oil Corp.'s Philbert Comm. No. 3-1 on the same section is on the pump for an unestimated output. No. 4-1 is a location on the section. Conductor pipe is in for Spinel Oil's No. KD-1 in the area. Near Newhall, W. W. Bush has location staked for No. 1 on Sec. 10-3n-16w. In the Elsmere area, W. J. Carter's No. 1 is idle at 210 feet in Sec. 5-3n-15w.

Chino Hills Test Rigging

Grayco Oil Co. is rigging Grayco No. 2 on Sec. 13-3s-8w in the Chino Hills area of San Bernardino County. Cajon Oil Co., Ltd., has location for No. 1 in the Cajon Pass area on Sec. 36-3n-6w. The project formerly was called H. W. Martin's Edison No. 1. Chino Hills Oil Co.'s Chino Hills No. KB-4 is gun perforating after running casing to bottom at 2056 feet.

Sunset Beach Wildcat Cores

Under the sponsorship of Standard of California a number of interesting test wells are making progress in different parts of the Los Angeles Basin. At Sunset Beach, Lomita Land and Water Co. No. 3-1 on Sec. 19-5s-11w is spot coring at 11,153 feet. Foundation is in for Turley No. 1, a wildcat on Sec. 4-6s-10w in the Fairview area, Orange County. In the Del Valle area, Sepulveda No. 13 is drilling sand and shale below 2850 feet. Ground is graded for Frew No. 1 on Sec. 29-3n-16w near Aliso Canyon. L. A. I. No. 4-1 on Sec. 20-2s-14w at Inglewood is spot coring below 6500 feet. Del Amo No. 1 on Sec. 8-4s-13w at Dominguez is a foundation.

Inglewood Well Good

Basin Oil Co. has completed Inglewood Comm. No. 7-1 on Sec. 28-2s-14w at Inglewood for a yield last reported of 67.6 barrels of 46.4 gravity oil daily, cutting 34 per cent. Redrilled depth is 10,178 feet. Production is not as large as other company wells in the area. This is believed due to the fact location falls on the edge of the field and at the same time marks the production boundary in that direction.

General Petroleum Corp.'s Ford No. 54 in the Wilmington Field, Victory Oil Co. contractors. Rear row, left to right: Irvin La Grange, driller; J. L. McClendon, lead tong; Leonard G. Love, cathead; front row, left to right, kneeling, R. H. Ballack, backup; Leo Cropper, derrick.

Olive Try Scheduled

Union Oil is preparing to try for oil in the Olive area of Orange County, where in recent weeks other operators tried and failed. The venture has been tagged Olive Comm. No. 4, and will drill on Sec. 8-4s-9w. Label of the project formerly was Squires No. 1 Union in combination with Fullerton Oil is drilling in the shallow formations with Mineral Springs No. 3 wildcat on Sec. 25-2s-11w at Mineral Springs.

Alondra Park Test Abandoned

Formations tests failed and British-American Oil Producing has abandoned at 9134 feet its Bodger No. 5 on Sec. 22-3s-14w in the Alondra Park area. The 13⅜-in. pipe was cemented at 1018 feet.

Puente Try Digs

East of Los Angeles in the Puente area, Louis H. Didier's Wilson Ranch-Didier No. 1 wildcat is drilling on down below 2300 feet. Drill site is on Sec. 19-2s-9w.

Montebello Test Deeper

Rothschild Oil Co. is drilling at 2510 feet with Wheeler No. 2 on Sec. 2-2s-12w at West Montebello. No. 1 was completed recently at 2900 feet for 46 barrels of 15 gravity crude a day, cutting 40 per cent.

Castaic Try Interesting

Still only a location is Humble Oil and Refining Co.'s L. A. Honor Farm No. 1 wildcat on Sec. 1-4n-17w in the Castaic area, Los Angeles County.

Athens Adds New Producer

J. P. Getty, Trustee of Estate, has brought to successful completion a new producer at Athens. It is Howard Park Fee No. 1 on Sec. 12-3s-14w, which as this is written appears good for 330 barrels of 33.3 gravity oil daily from 8939 feet. Southern California Petroleum's Howard Townsite No. 86-1 on Sec. 12-3s-14w is a foundation. Pacific Western's Howard Park Comm. 1 on the section is drilling at 8245 feet. At Brea, Pacific Western is making hole at 7061 feet with Brea Comm. No. 2-1 on Sec. 11-3s-10w.

Castaic Try Fixing Rig

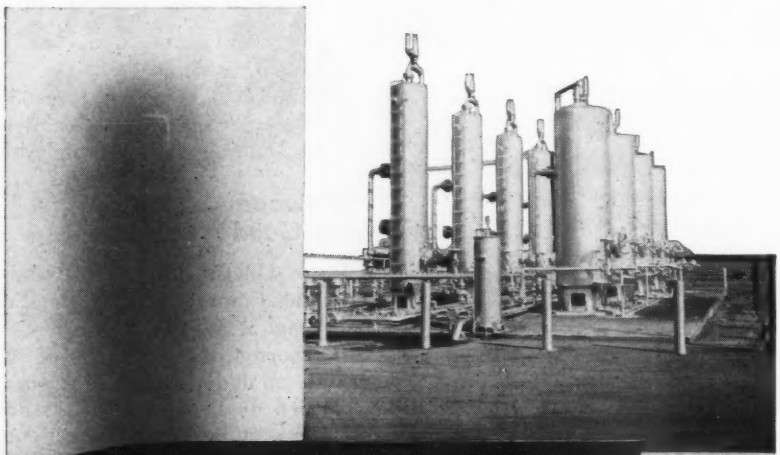
Equipment repairs are being made on L. R. Wilhite and Claude Kavanaugh's Wilhite-Jenkins No. 1 on Sec. 18-5n-16w in the Castaic area. Present depth is 2735 feet.

Newhall Try Works

Conditioning operations are the order of the day in R. W. Sherman's Newhall Comm. No. 3-1 on Sec. 2-3n-16w in the Newhall area. The hole is 2367 feet deep at present.

Antelope Valley Wildcat Reaming

In the Antelope Valley area, Orlando Oil Corp. is reaming with Orlando No. 1 explorer on Sec. 32-5n-10w. Present depth is 598 feet. The valley in recent months has intrigued several operators to sink test wells in various sectors there.



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Coastal and Northern District

Santa Barbara Adds Tidal Tests

Oil exploration offshore Santa Barbara County is a chief point of interest in Coastal petroleum circles. During recent days ten additional companies have made known that they plan to join three now engaged in tidal water oil investigation along a 75-mile stretch north of Santa Barbara from Point Conception to Point Estero. These concerns are expected to begin operations October 1, under permits issued by the California Division of Fish and Game and the State Lands Commission. The single permit issued to Shell Oil Co. will cover joint activities of that company and a dozen other firms. The 12 will include Texas Co., Hancock, Ohio, Signal, Honolulu, Tide Water Associated, Richfield, Standard of California, Union, General Petroleum, and Continental.

Present under water exploration is being carried forward by an operating combination of interests made up of Shell, Union and Continental. Agent of inquiry is the seismic method. This medium calls for artificially induced earthquakes to create shock waves as deep as 15,000 feet below the ocean floor. Reverberations are prompted by a new explosive known as Ep-126 derived from nitrocarbonate. Fish in this area are not as plentiful as in other parts of the Pacific. Consequently work with explosives will be permitted throughout the year on a two-year program.

Point Arguello Wildcat Quitting

Near lonely Point Arguello along the Santa Barbara County coast, Universal Consolidated has abandoned its No. 4 test on the vast Sudden Ranch in Sec. 25-6n-36w. Total depth is 2009 feet. Top Cretaceous was placed at 1670 feet.

Santa Rosa Hole Idling

Operations have been suspended below 2100 feet in L. W. Lenhart's Ramona Core Hole No. 1 on Sec. 24-7n-9w at Santa Rosa in Sonoma County. Precision Drilling Co.'s Tunzi No. 1 on Sec. 9-26s-28e near Petaluma has reached 1800 feet and may be abandoned.

San Ardo Try Spuds

Cleveland Oil and Barnsdall have spudded and are drilling on down in the shallower formations with Ansberry No. 1 on 1500-acre lease at San Ardo in Monterey County. Drill site is on Sec. 2-22s-9e. Jergins and North American are about to complete at 2150 feet their Ferrini No. 70-11 on Sec. 11-23s-10e. Their Orradre No. 95-11 on the section is prospecting ahead below 500 feet. In the Salinas Valley area, Texas

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Quick Production Zone Cleanups with the

BOWEN LINE WASHER!

Positive high pressure washing action of the Bowen Liner Washer—plus the return circulation feature—enables you to completely remove sand and inert material from behind the liner—on just one trip into the hole!

Operation is simple. The washer is moved up the liner in easy stages, and at each setting a section of the liner is packed off to permit concentration of pressure through the tool and out through the perforations at that point. Pressure can be built until circulation is established—an important point.

Bowen Liner Washers are available in a full range of sizes from your nearest Bowen Service Store—which is open 24 hours a day for your convenience. Next time—call Bowen!

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Co. has completed Lombardi No. 3 on Sec. 27-22s-10e at 2110 feet for 45 barrels daily, cutting 1 per cent. Biaggi No. 2 on Sec. 12-22s-9e has been finished at 1159 ft. for a yield of 12 barrels a day, cutting 64 per cent. Ansberry No. 1 on Sec. 11-22s-9e ad Aurignac No. 3 on Sec. 31-22s-10e have been abandoned at respective depths of 1791 and 4765 feet. Grading is under way for Beedy No. 1 on Sec. 33-19s-7e. Echeberria One No. 1 on Sec. 33-21s-11e is running surface pipe to a point near 209 feet.

Willow Point Test Redrills

Shell Oil is redrilling at 6960 feet in its Glide No. 2 gas test on Sec. 14-7n-3e at Willow Point in Yolo County. The company's James No. 1 gas try on Sec. 1-19n-5w in the Logan Ridge area of Glenn County is drilling at 1750 feet in sand and shale.

Los Alamos Try Drills

On the Tognazzini property at Los Alamos, Amerada Petroleum is prospecting at 6566 feet in test on Sec. 14-8n-33w, Santa Barbara County.

Guadalupe Tries Grade

Roads are being graded for Continental Oil's LeRoy No. 3 and No. A-1 tests on Sec. 2-10n-36w in the Guadalupe area, San Luis Obispo County.

Moorpark Try Digs

Drilling is continuing ahead below 1650 feet in the interesting test well sponsored by Engineers Syndicate, Ltd., in the Moorpark area of Ventura County. The well, known as Strathearn-Coleman No. 1, is on Sec. 12-2n-19w.

Zaca Well Producing

Tide Water Associated Oil Co.'s prolific ground at Zaca in Santa Barbara County continues to add new production. The company's latest well is Luton No. 51 on Sec. 33-8n-31w, which is pumping 1810 barrels a day from a plugged depth of 4159 feet. Three other jobs are making progress toward their respective objectives.

King City Try Fails

Union Oil's Keans No. 1 wildcat on Sec. 8-22s-8e, south of King City in Monterey County has come to a disappointing end at 5588 feet. Tar Creek No. 40 on Sec. 28-5n-17w in the Topa Topa Anticline area has been spudded in and is making hole around the century mark. Near Casmalia, Jesus Maria No. 1 on Sec. 34-8n-35w at last reports was yielding water at the rate of 879 barrels daily on the turbine pump. Depth is 2274 feet. Fugler No. A-1 on Sec. 35-10n-33w at Bradley Canyon is grading. The company has finished two wells at Olivera Canyon. Wickenden No. 2-28 on Sec. 28-9n-32w is making 28 barrels a day from plugged bottom at 4825 feet. McCroskey No. 4 on Sec. 29-9n-32w is pumping 224 barrels from 5102 feet. First National Bank No. 1 on Sec. 19-9n-32w is drilling at 2975 feet. Pacific Western has added a new well at Olivera Canyon. The new producer is Williams Holding No. 1 on Sec. 18-9n-32w. It started off at a rate of 204 barrels daily from effective depth of 5660 feet. Original bottom is 5837 feet.

Arroyo Grande Try Runs Witch

Bishop Oil Co. is preparing to run water witch in its Maino No. 6 on Sec. 31-31s-13e in the Arroyo Grande area, San Luis Obispo County. Total depth is 1240 feet, with casing set at 1140 feet.

Sespe Try Drills On

At Sespe in Ventura County, Eagle Rock Petroleum Corp. is drilling at 1925 feet in its hunt for new oil with Eagle Rock No. 1 on Sec. 36-5n-20w.

San Marcos Test Coring

Fred M. Manning's interesting wildcat known as Lazy R. G. No. 1 on Sec. 24-6n-29w in the picturesque San Marcos area is spot coring in Miocene shale at 3820 feet. Top Miocene shale was placed at 2000 feet.

Hopper Canyon Test Prospects

Drilling is nearing 1350 feet in Richards and Rowan's Cosby No. 1 wildcat on Sec. 14-4n-19w in the Sespe area. At Sespe Forks, H. A. Ivers' No. 14 on Sec. 1-4n-20w is idle at 625 feet.

Sulphur Mtn. Test Rigging

Richfield Oil is rigging its A. E. McCallister No. 1 try on Sec. 23-4n-22w at Sulphur Mountain. W. A. Freeman No. 1 on Sec. 21 is idle at a plugged depth of 2658 feet. The hole went to an original depth of 3452 feet. At Timber Canyon, Richfield is drilling at 3132 feet in E. P. Clark No. 1 wildcat on Sec. 13-4n-21w.

Summerland Try Deeper

On Ortega Hill in the Summerland area, Standard of California is drilling at 1937 feet in Williams No. 1 try on Sec. 16-4n-26w.

West Newport Test Working

Foundation is near the intersection of 17th and Ramona Streets for Habco Oil Co.'s Jefferson No. 1 on Sec. 21-6s-10w on prospect ground at West Newport. Seguro Petroleum Co. is swabbing for production in Weirick No. 16 on Sec. 7-6s-10w. Total depth is 5305 feet, with 7-in. set at 5250 feet. Amerada Petroleum is sidewall sampling and ready to run electric log in its Lamb No. 68-6 on Sec. 6-6s-10w. The company's Irvine No. B-58A-7 is rigging up on Sec. 7-6s-10w.

Seal Beach Well Testing

Preliminary to testing, Marine Exploration Co. is engaged in cleanout operations in its State No. 2 on Sec. 11-5s-12w, bottomed offshore Seal Beach. Total depth is 11,900 feet.

San Joaquin Valley

Pattiway Area Interest Center

Anderson & Associates, holder of approximately 6000 acres in the Pattiway area near San Emigdio, is understood to have under consideration additional test holes there. The concern's Klipstein No. 1 on Sec. 18-10n-12w is idle at 1843 feet. Ground in probable line for questioning is not far from the San Andreas fault, which enters California off the Mendocino coast and travels through the state in a north-south direction. An interesting sidelight on the fault is the fact that due to its distinctive coloring, early-day airmen used it as a guide when flying the route between Los Angeles and San Francisco.

The known existence of the fault was generally believed at one time to preclude oil production from the area. This theory, however, was not sustained when drilling at Cuyama resulted in discovery of oil along the west edge of the fault in "Kweeyomma." Pattiway, nestling on the east edge of the structural displacement, is about 18 miles south of Cuyama production. A well-defined six-mile long anticline in the Pattiway area is said to resemble strongly geological conditions at Cuyama. Maricopa is north of Pattiway and Wheeler Ridge is east.

Tejon Hills Wildcat Listed

Rainbow Oil Co. has listed a new wildcat test well for the Tejon Hills area on Sec. 10-11n-18w, Kern County. It will be more than a mile directly north of Tejon Hills Oil Co.'s No. 7 shallow producer and probably on a fault trap similar to the Tejon Hills discovery. Approximately 1200 feet southwest of Tejon Hills Oil's No. 6, Richfield is grading location for Tejon A No. 1-10 on the section. Tejon Hills Oil's No. 6 on Sec. 25-12n-19w is ready to pump from 550 feet. Mechanical difficulties delayed the finishing touches.

Russell Ranch Adds Producer

Richfield Oil Corp. has completed another well in the White Rock sector of the Russell Ranch field. The well, Anderson No. 15-30 on Sec. 30-11n-27w, was finished flowing at the rate of 2888 barrels daily of 31 gravity oil cutting three-tenths of one per cent. Yield rate was made on a three-hour test with the flow bean varying between one and one-half inch. Open to production is more than 450 feet of formation. Casing is set at 2622 feet, with total depth at 3075 feet. The new producer is the most northerly well completed on the Anderson-Colgrove lease. Under restrictions of a 16/64-in. choke, flow was at the rate of 462 barrels a day. The company has a score of other wells at Russell Ranch in various operational stages.

Four miles east of Richfield production, Ohio Oil has started the drill in its Kirschenmann No. 1 on

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BRANCHES IN ALL PRINCIPAL OIL FIELDS

Sec. 12-10n-27w. Hancock Oil Co., meanwhile, is building roads and running water lines for its Quality No. 45-21 on Sec. 31-11n-27w. Coast Exploration and C. W. Colgrove are about to spud their T. & P. No. 1 on Sec. 33-11n-27w. A. A. Cameron's Triplett No. 25-19 on Sec. 19-10n-27w is running surface casing, with bottom of the hole at 190 feet. North of the Richfield Sloan property line, Wood-Callahan Oil Co. plans to drill on Sec. 18-10n-27w.

Colusa Test Coring Shale

Coring shale at 2580 feet is the last report from Universal Consolidated Oil's Sites No. 1 wildcat on Sec. 19-17n-4w in the Sites area of Colusa County.

Honda Creek Wildcat Staked

Crome Oil Co. has staked location for an interesting exploratory venture on Sec. 35-16s-14e near Honda Creek in Fresno County. Drill site is slightly more than a mile southwest of an unsuccessful project drilled in 1944 by Jim Logan to approximately 9000 feet. This earlier trial bottomed in unproductive Eocene sand and apparently encountered oil showings only in the Temblor. Showings were not of commercial importance. E. E. Combs and H. H. McVicar are company officials.

Devils Den Wells Drills

International Exploration Co.'s No. 1 on Sec. 15-25s-18e in the Devils Den area is drilling ahead at 1719 feet. A shallow test of the area is planned by Gilliland Oil Co. It will be made through the medium of Alferitz No. 4, some 330 feet west of Alferitz No. 2 on Sec. 14-25s-18e.

Loscal Takes Belridge Acres

Loscal Petroleum Co. has reported the acquisition of 160 acres of fee ground on Sec. 11-29s-21e in the Belridge field. The property embraces 24 wells, which were drilled during the war and produced from a depth averaging 1100 feet. They have been off production for about a year and one-half. The new operator is preparing to recondition the wells and return them to production.

Bacon Hills Test Starting

Seaboard Oil Co. is moving in equipment for No. 37-21 test, 1100 feet north and 1650 feet east of the southwest corner of Sec. 21-28s-20e at Bacon Hills. No. 58-21 has suspended operations at 9467 feet, with three separate fishes in the hole. Top of first fish is 5842 feet, with last fish at 2560 feet. Southwest of the Edison field, the company's Porter No. 1 on Sec. 28-30s-29e is coring at 4725 feet. Formation try of the interval of 4287-4330 feet recovered gassy mud and spot of oil and no water. Formation test of the interval of 3450-3590 feet failed of its purpose.

Rosedale Try Drills

At Rosedale in Kern County, Continental Oil continues to dig deeper in its KCL No. P-1 wildcat on Sec. 11-29s-26e, Kern County. Nothing of interest has been reported to date.

Terra Bella Wildcat Works

In the Terra Bella area, Hudson Oil Co., Inc., is cleaning out Hudson-Fay No. 1 wildcat on Sec. 24-22s-27e, Tulare County. The hole presently is bottomed at 857 feet.

Jasmine Try Idle

Idle at 2652 feet is the most recent word on Mayflower Oil's Mayflower No. 1 test on Sec. 23-25s-27e in the Jasmine area, Kern County. Barnsdall Oil plans a wildcat on Sec. 32-25s-27e, about two miles southwest of production.

Shale Hills Try Gives Up

Signal Oil & Gas is preparing to abandon its Signal-Honolulu-Twisselman No. 1 on Sec. 22-27s-18e near Bitter Water Creek in the Shale Hills area. Prospecting was carried to a bottom of 2194 feet in gray sand. The company's Signal-Pike well on Sec. 10-30s-22e in the McKittrick area is perforating and testing, with total depth 7505 feet. No. 2 is testing above plug at 3450 feet. Original depth was 6246 feet.

Kern River Well Cased

Cleveland il Co has set casing at 989 feet in its David No. 21 on a 40-acre lease on Sec. 36-28s-27e in the Kern River field. Eight drilling jobs have been programmed for the property.

Cholame Try Digs

Cholame Oil Co. is drilling at 1520 feet with its Kosanke No. 5 on Sec. 12-25s-19e in the Cholame Hills, San Luis Obispo County. Location falls about a mile and one-half northwest of two holes put down two years ago by Henry E. Dawson to depths of 900 feet, which were later abandoned. One test was credited with oil sand around 700 feet.

Petroleum Production-Part IV

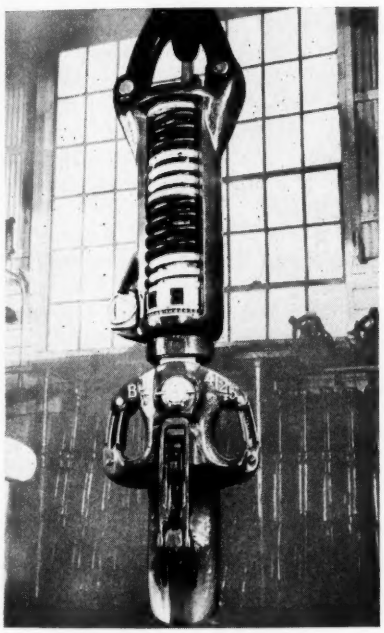
Volume IV of the Petroleum Production Series by Park J. Jones, recently released, deals with the subject of condensate production and cycling. Chapters dealing with fundamental considerations are divided into: condensation in reservoirs; gas injection into rich gas; gas injection into water; production by expansion; displacement and expansion; and the economics of condensate production.

The chapters dealing with practical applications cover: radial reservoirs; elongated reservoirs; linear reservoirs; and the derivation of maximum efficient rate. The text is well illustrated with sketches and tabulations, together with practical problems illustrating the use of theory in practice. The text is published by Reinhold, New York ($5.00).

GEORGE S. KELLER Cholame Oil Company, the man with the silver horns, (on his Lincoln, that is) . . . reports activity in the Black Mountain area of Kern where so much gas turned out to be simply that, but new tries with one to the basement is planned. Some folks say this is another new oil field.

Byron Jackson 4125 Super Triplex Hook

Special cutaway of the housing of a 125-ton Byron Jackson Supertriplex Hook clearly demonstrates the double spring construction and solid one-piece shank with no load-carrying threads.



Super Triplex Hook

These hooks are available in four capacities . . . 60-ton, 125-ton, 200-ton, and 300-ton. Precision-machined swivel rings (lower one visible in the picture) carry loads evenly and permit free rotation when the hook is unlocked. The shank has no load-carrying threads. A sub-shank threads into the lower section of the shank. The sub-shank carries only the compression of the low-stressed relief springs.

The Super Triplex line of Hooks feature 6 to 8 inches of spring travel. This assures soft, easy action and eliminates the need for exact spotting of the travelling block. Floating action design means easier handling of drill pipe and less chance of galled pipe threads.

Byron Jackson Co., Oil Tool Division, Box 2017 Terminal Annex, Los Angeles 54, California.

Permanente Expands

Possible expansion of Permanente Cement Company's facilities to meet the growing needs of the West was indicated today when the company disclosed that it has exercised an option to purchase 498 acres of land near Helena, Montana, as the possible site of a cement plant.

Pointing out that all of the West's cement producers are operating at capacity and that demand is far in excess of supply, company officials said they are giving the Montana location serious consideration as the site of a new cement manufacturing plant.

Permanente has had the property under option for six months.

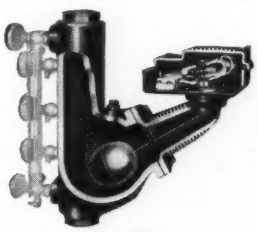
The transaction involves three parcels owned by John S. F. Donovan, Robert A. Donovan and Augusta Lamb Donovan of San Francisco; Hallie C. Devore of Helena, and Michael J. Sullivan of Alhambra, Montana.

Permanente already owns and operates producing plants at Permanente, California, and Seattle, Washington, and has distribution facilities at Honolulu and Redwood City, California.

New McDonnell No. 157 Safety Control for High Pressure Boilers

The McDonnell No. 157, a new safety control that offers a self-contained water column for high pressure boilers has recently been announced by McDonnell & Miller, Inc., Chicago. Designed for maximum steam pressure of 150 lbs., the No. 157 is actually the dependable McDonnell No. 150 in a new water-column form and makes available low water cut-off, pump control, and low water alarm or any combination of these functions.

By making the control an integral part of the water column, practically all equalizing piping and fittings are eliminated. As a result, installations are quick, simple, and trim; reproduction of the boiler water level is ideal, and effective, direct blowdown can be provided.



No. 157

Still another important feature is found in the positioning of all tappings for water-glass and tri-cocks in the end of the body so that the control may be located on either side of the boiler.

In operation, the boiler feed pump is controlled by the No. 157 from the boiler water level so that the water line is held within close limits, assuring maximum steaming efficiency. An extra switch provides circuits for low water fuel cut-off and low water alarm. Thus, the No. 157 combines the most efficient method of feed pump control with an emergency low water cut-off and alarm in a form that greatly simplifies installation on boilers having separate water columns. According to the manufacturer, the No. 157 offers complete protection from low water hazards, and is the easy, economical way to apply the most tested and modern boiler water level control to boilers of any size.

Goodyear Appoints Republic Supply

Appointment of The Republic Supply Company of California as state-wide distributors of the complete Goodyear line of mechanical

rubber products was announced this month by Mr. R. G. Abbott, Manager of the Goodyear Tire & Rubber Company's Mechanical Rubber Goods Division.

For over eight years The Republic Supply Company of California has been a successful jobber for Goodyear in the San Francisco Bay area and it is felt that through the extension of Republic's distributorship, the combination of Goodyear's production facilities and Republic's sales and service coverage will combine to provide California consumers with the type of service they desire and require.

Due to increased sales resulting from their new relationship with The Republic Supply Company and the ever-increasing market in the west for mechanical rubber goods, Goodyear expects to expand the production of its Los Angeles plant to include several new lines. In the near future the Los Angeles Goodyear plant contemplates production on flat transmission belting and V-belts. This will be in addition to their present production of the larger sizes of hand built and mandrel built hoses, molded rubber goods, and rubber lining of tanks and piping.

New-Hypower Enclosed Worm Gear Drives Developed by Foote Bros.

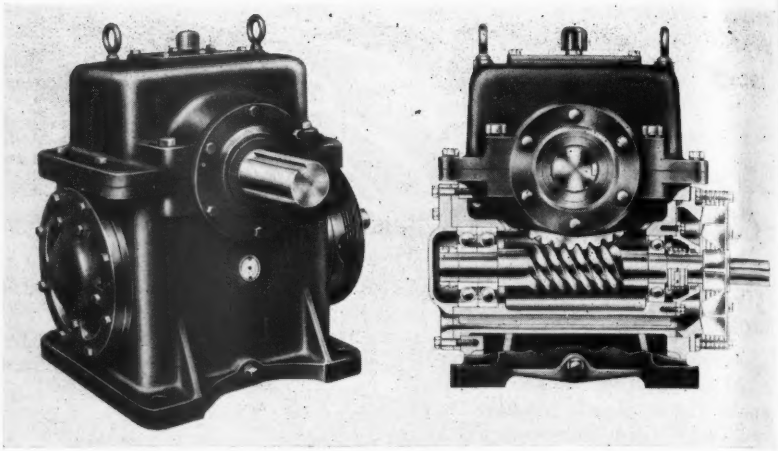
Foote Bros. announces the introduction of a new line of enclosed worm gear drives in both horizontal and vertical types.

Foote Bros. Hypower units, the manufacturer states, are smaller in size than conventional drives of equal capacity. They deliver power at lower cost and because of their high thermal capacity, they permit the use of a smaller, less expensive reducer which means a savings in original cost.

Many features are said to contribute to the superior performance of these drives:

. . . Increased low carrying capacity is accomplished by means of a new revolutionary technique in generating gears.

. . . Increased thermal capacity is due to the immersion in the oil reservoir of an air channel cylinder through which passes a high velocity stream of cool air.



Foote Bros. New Hypower Enclosed Worm Gear Drive Horizontal Unit

. . . Leakage of oil is prevented by the use of carbon lapped ring type seal.

. . . A reduction in size and weight is accomplished by refinement in design and improved methods of manufacture.

. . . Better metallurgical control of material and improved manufacturing techniques assure improved mechanical capacity.

Foote Bros. Hypower worm gear drives are available in horizontal and vertical types in single and double worm gear reductions, in a wide range of standard ratios to meet practically any need. These units comply with the speed-ratio standards adopted by the American Gear Manufacturers Association (AGMA), and the National Electric Manufacturers Association (NEMA).

Bulletin HPA fully describing the new Foote Bros. Hypower enclosed worm gear drives and containing ratings and dimension tables is available on request.

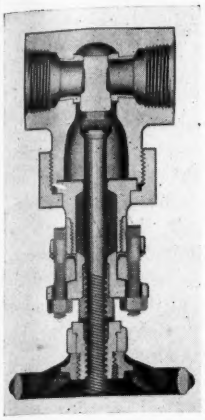
New Bulletin by National

Drill Pipe and Tool Joints. A new 12-page bulletin, No. 356, has been issued to describe and illustrate Spang-Chalfant's new **Double Seal** Shrink Thread Drill Pipe and Tool Joints. The bulletin features the new design, having seals at both the internal and external ends of the pipe threads, as well as the shrink thread design. Methods of replacing tool joints are illustrated, and recommendations for the use and care of drill pipe and tool joints are included. Specifications are given. Copies are available from the Spang-Chalfant Division of The National Supply Company, P. O. Box 298, Pittsburgh, Pa.

General expansion of the facilities of Darwin H. Clark Co., Advertising Agency, and removal of offices to the agency's new building at 1139 West Sixth Street, were announced recently. The new structure—one of the most modern in the west—offers every facility for streamlined advertising agency service.

The agency, founded in 1935, handles forty leading industrial, consumer, financial and association accounts. It is the exclusive Los Angeles member of Transamerica Advertising Agency Network with affiliated offices in 15 key cities from coast to coast.

Crane Co. Announces New Line of 600-Pound Steel Gate Valves



To meet a demand for small, compact valves in the 600-pound class, Crane Co., Chicago, has announced a new line of union bonnet 600-pound cast-steel gate valves. The new valves have been designated No. 3602XW and 3602X, and will replace the No. 3606XW and 3606X, which are being discontinued. The new valves are available in sizes ¼ through 2 inches, with screwed ends and with two kinds of trim. The 3602XW has Exelloy seats and a hardened stainless-steel disc; the 3602X has both seats and disc of Exelloy.

The valves are the union-bonnet type. In sizes ¾ through 2 inches the bonnet ring, bonnet and yoke are separate parts; from ¼ through ½ inch these parts are cast in one piece. The joint between the body and bonnet is sealed with a soft iron gasket, which is not affected by high temperatures or by any of the fluids for which the valve is recommended. The valve has an outside screw and yoke. Special attention has been given to the design of the stuffing box, which is deep enough on valves over ¾ inch in size to hold six rings of square packing. The gland is held by two T-head bolts fitted into slots in the yoke and can be adjusted easily.

The XW valves are recommended for superheated or saturated steam, hot or cold water, ordinary air, natural gas, fuel oil, gasoline, low-viscosity oil such as is used in hydraulic systems, butane, propane, and for fluids that are non-lubricating and relatively non-corrosive; top temperature recommendations are 850 F. The X valves are recommended for oil and oil vapor at temperatures up to 1000 F.; these valves are not recommended for steam or other non-lubricating fluids, because the Exelloy-to-Exelloy seating faces have a tendency to gall in such service, particularly if the seating loads are unusually high.

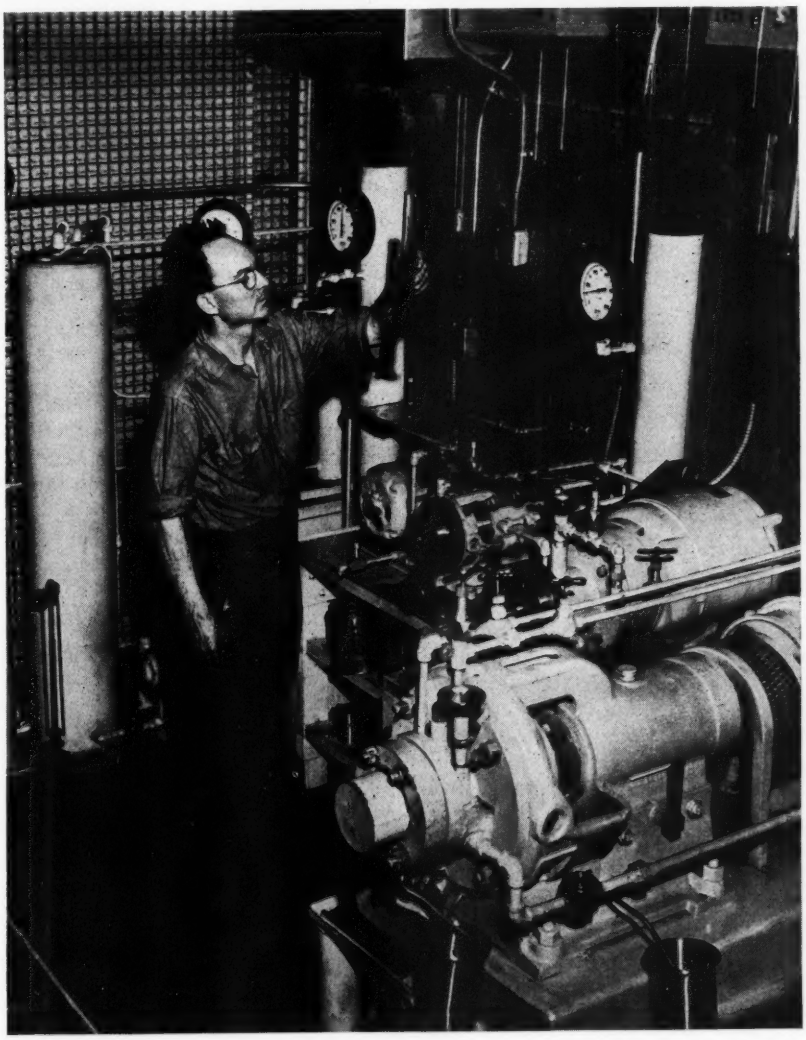
The new line of union bonnet valves does not replace Crane 600-pound small steel bolted-bonnet valves, which Crane will continue to manufacture as heretofore.

B-J Operates Testing Laboratory

A complete mechanical seal experimental and testing lab is operated by the Pump Division of the Byron Jackson Co. of Los Angeles, California. All mechanical seal experimental runs as well as routine tests of seals prior to installation, are made in this lab under the capable supervision of Wes Shone, inspector.

Testers have been so designed that all seal sizes from 1" to 4½" can be assembled and run within a very short period of time. Each seal face is carefully lapped, inspected under a flat, and then installed in a tester. Seal oil pressure is supplied by an automatic pressure system capable of operation between 0 and 1,000 psi. Isolating tanks connected to this system, permit testing with water as well as special lubricants, with the same range of pressures. Cooling jacket water is supplied by the BJ Bilt-on pump. Flow indicators are located in each cooling jacket line.

Leakage is carefully recorded, together with the length of the run, seal oil temperature, and the essential information describing the type

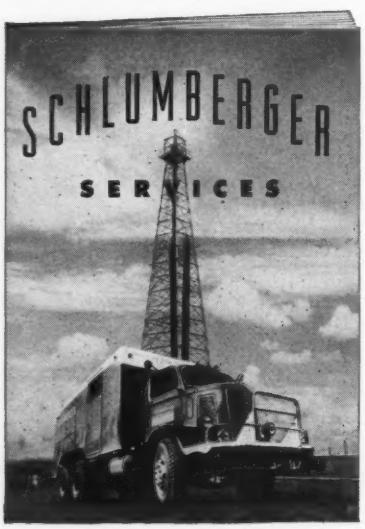


Mechanical seal testing and experimental lab operated by the pump division of the Byron Jackson Co.

of seal under test. At the end of each run, leakage is converted into terms of gallons per year. The seals are re-inspected and either okehed or rejected for installation. In the event the run is experimental, results show how the materials of the seal stand up under various temperatures, fluids, and operating conditions.

New Schlumberger Catalog Now Available

Schlumberger Well Surveying Corporation, Houston, Texas, has recently published a new catalog which presents illustrations and descriptive data on all of the 17 Schlumberger Services available.



Interested operators are invited to write for copies of this informative booklet.

G. C. (Crooks) Stafford, associated with the Shell Oil Company for twenty-seven years, has joined the sales staff of McCullough Tool Company, Los Angeles.

A real old timer in the oil business he started his oil experience in the Coalinga area and is well known throughout the California oil fields. Stafford is the father of popular Jo Stafford, singing star of screen and radio fame.

Of particular interest to Washington oil observers was the comment on current oil profits ascribed to Robert C. Dunlop, president of Sun Oil Co. in the current issue of his company's publication.

California Southern Division of Shell Oil Company Hears Talk on Pelton Hydraulic Pumping Jack

The Shell Oil Company's Southern Division in California heard a three-hour lecture on the Pelton Hydraulic Pumping Jack on July 29 at the Shell headquarters in Long Beach, California. D. K. Stewart, Shell District Production Foreman, and the Shell engineers arranged for the lecture in cooperation with Pelton. The talk was attended by approximately forty production foremen, engineers, maintenance and operating personnel of the Shell organization.

C. J. Woodard, Manager Sales-Service of the Pelton Hydraulic Pumping Jack Department, spoke the first two hours on the operation and maintenance of the Pelton Jack. The talk was illustrated throughout with drawings, photographs, and slides. The last hour was taken up at a well site where Shell has a Pelton Long Stroke Jack in operation. Clyde H. Lietzow, Pelton's Sales-Service Engineer in Long Beach, instructed the Shell personnel in the operation of the Pelton jack.

Woodard states that a series of such lectures are planned for the California oil fields in order to acquaint more of the oil companies operating personnel with the Pelton jack, since long stroke pumping of oil wells is gaining in importance daily.

Appointment of Frank E. Scheliga as Superintendent, Rolling Mill, of Torrance Plant of Columbia Steel Company, was announced recently by O. A. Kresse, General Superintendent.

Scheliga joined this subsidiary of United States Steel Corporation in 1938 as a laborer. In the succeeding years his advancement was rapid. In 1942 he was promoted to the position of Practice Supervisor; in 1943 to Turn Foreman, and in 1947 he was appointed Assistant Rolling Mill Superintendent, which position he has held until his present appointment.

Scheliga attended high school in the Los Angeles area and is a graduate of Loyola University. He lives at 645 West 134th Street, Hawthorne, California.

C.N.G.A. 1948 Fall Meeting Announced

"Program arrangements for the 1948 California Natural Gasoline Association's Fall Meeting have been completed," was the announcement of Fall Meeting Chairman Randal Maass, General Petroleum Corporation. Maass, who has a wealth of experience at solving problems of the natural gasoline and refining industries, stated that in preparing the program, his committee has selected "Propane" as the theme. The meeting is scheduled for Friday, October 8th, at the Ambassador Hotel, with the morning session devoted to presentation of technical papers, the afternoon featuring an "Information Please" session and the evening given over to the Association's annual banquet.

President Kirk points out the fact that the material to be presented has a definite value to men outside the natural gasoline industry as well as to the Association's membership. He therefore extends an invitation to all executives, engineers and chemists in the petroleum, natural gas and liquefied petroleum gas industries to attend. No admission or registration fees are charged for attendance at any of the day time events.

Committee members striving to provide the industry with an outstanding program are: Randal Maass, Chairman, General Petroleum Corporation; M. L. Arnold, Richfield Oil Corporation; Ira C. Bechtold, The Fluor Corporation, Ltd.; W. C. Dayhuff, California Research Corporation; Fred L. Hartley, Union Oil Company of California; M. W. Kibre, General Petroleum Corporation; R. S. Ridgway, Standard Oil Company of California; J. B. Taylor, Signal Oil & Gas Company, and George L. Tyler, E. I. DuPont Company.

Kettleman Hills Wildcat Drilling

Following completion of a minor fishing job, Middle Dome Corp. is making hole ahead below 5350 feet with No. 52-30V on Sec. 30-23s-19e on the Middle Dome of Kettleman Hills.